

# GRADUATE

## UNIVERSITY OF TORONTO ALUMNI



# HEALING WITH MOTION

**INSIDE:**  
OUR OLDEST AND  
BIGGEST MINORITY

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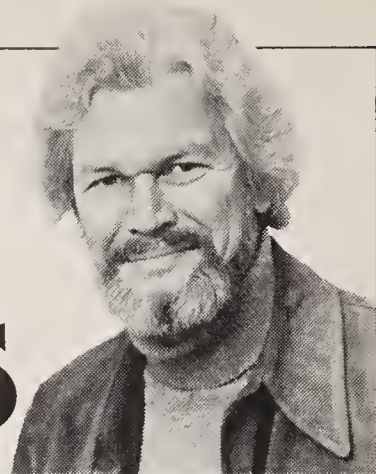
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# WRITING WRONGS



**W**hat's going on here? According to *the newspaper*, one of the livelier on-campus journals, associate arts and science dean Jill Webster had all but wrecked orientation week by inflicting her dratted English proficiency tests on more than 6,000 incoming freshmen on Thursday evening and Friday morning, September 4 and 5.

In its August 1 edition *the newspaper* reported that student societies across campus were dismayed. Michael Martin, Students' Administrative Council executive member representing arts and science students, had written to both faculty and president to complain and said in an interview that "orientation is one of the most rewarding and important experiences you'll have at university. These tests are a serious detraction from orientation activities."

Spokesmen for various activities, including a Thursday afternoon scavenger hunt at Victoria College, concurred, and pleading the probable financial losses caused by diminished turnouts, asked whether nothing could be done. Dean Webster's response was to state flatly that indeed, nothing could be done and that it was "very unlikely" that next year would be any different.

Earlier in the summer the *Montreal Gazette* gleefully congratulated the University of Waterloo for refusing to graduate a student who had passed all his courses but failed the mandatory English proficiency test. "Not so long ago," the *Gazette* opined, "the English proficiency test was administered before you got to university, not afterward. It was called a high school English exam, and if you didn't pass it you didn't get admitted to university. In fact, you didn't even graduate from high school."

"But then came a time when it was considered cruel to flunk students. This resulted in numerous near-illiterates 'graduating' from high school, and many of them were duly admitted to university. They would graduate from there, too, since it was not fashionable to suggest that those who could not speak or write clearly probably could not think clearly either."

There's a bit more, in the same vein, but it must be noted that most editors have a vested interest in the matter of literacy and wish that more people had more of it.

Nonetheless it is true that after many years of agonizing, the universities, including this one, have had to admit that many of their students and even graduates are functionally illiterate. Five years ago our own campus fortnightly *Bulletin* observed that "it appears that recent reports in newspapers are not grossly exaggerated when they say a substantial number of high school and undergraduate students have difficulty writing a sentence. Students have problems with sentence structure, they have a pitifully limited vocabulary, and they commit many spelling errors, according to one professor."

Nor are such problems peculiar to Canada. Czechoslovakian author and novelist Josef Skvorecky (see page 16) said at the time the same was true in his home

country. "This phenomenon seems to be common to all industrial societies which have well-formed media systems," he said. "Bureaucracies and the media tend to corrupt language through their use of the vernacular and lack of imagination in expression."

Television is an obvious factor, and a recent report estimates that "youngsters are glued to the set an average of 20 to 30 hours a week and by the time they finish high school have taken in a whopping 15,000 hours of sitcoms, sports and game shows".

Desmond Morton, professor of history at Erindale, noted in an article published in the *Toronto Star* this summer that professors and employers and people in general know that "students incapable of writing a coherent sentence, much less a paragraph, enter universities every year. By choosing their courses carefully, many of them graduate."

Professor Morton worries about the political implications of the test results, with an autumn provincial election rumoured. "Certainly evidence that some of the province's most highly qualified high school graduates cannot write a satisfactory paragraph or two will not help an incumbent government." But, he concludes, "The University of Toronto has finally taken a tough stand on a well established problem. If it fights and runs away, its reputation may not live another day."

**I**n the interests of an informed readership, we visited Mary Henkelman, who is co-ordinator of the English proficiency test, to find out how rigorous the tests are, how many students are likely to fail them, and so on. We were vastly reassured by her disagreement with Professor Morton's gloomy prediction that, judging by other universities' experiences, up to 40 percent might be expected to fail. "We expect," she said, "between 20 and 30 percent."

Those who do fail will be permitted to try the test six times during their first and second years. If they fail six times they will not be permitted to register for their third year, although they can try again and resume their studies if and when they do pass.

The test itself is straightforward. Students are given one hour to write a 300-word essay (roughly one-third of the verbiage printed on this page, which normally runs to about 975 words). There are four possible grades, only one of them a clear failure. Each test will be rated by two markers, mostly people with PhDs in English, and if only one of them gives a paper a failing grade it will be read by a third marker, for it requires two failing grades to constitute a failure. The grading guide is, in our opinion, lenient.

So goes the University's quest for excellence. *Velut arbor aevo*. Pity about orientation week, though.

Editor



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# JOINTS WERE MEANT TO MOVE —AND MOVE AGAIN

*Dr. Robert Salter has followed  
this commonplace  
to an uncommon conclusion.*

**By Pat Ohlendorf**

**O**steoarthritis, or degenerative arthritis, has been found in the bones of cavemen and even dinosaurs. It is the gradual wearing away of joint cartilage, an irreversible process because the damaged joint responds not by generating new cartilage but by producing bony outgrowths and fibrous, or scar, tissue. Sometimes no cartilage is left at all and the joint becomes too stiff and painful to move. Drugs can't cure the arthritis, and doctors have been reduced to prescribing heating pads and aspirin to dull the pain, symptom of the disease. In the past, surgeons turned to fusing the worn-out joint which stops the pain but also makes it permanently rigid, or, more recently, to replacing the joint with an artificial one. Some arthritis sufferers who haven't been helped medically have tried acupuncture, chiropractic, hypnosis, and even copper jewellery and other home remedies.

Although degenerative arthritis can develop spontaneously, more often it is a response to previous damage. Other joint diseases such as septic arthritis (infected joints)



can set it off, as can deformities and injuries. Thus, despite its reputation as one of the agonies of aging, degenerative arthritis can afflict anyone several years after joint damage.

Also, according to Dr. Robert Salter, professor and head of orthopaedic surgery at the University of Toronto and senior orthopaedic surgeon at the Hospital for Sick Children, degenerative arthritis is sometimes an iatrogenic (doctor-produced) disease. Through his animal research he has shown that when a joint is kept still in a cast or splint for a long time as a form of treatment, several things can go wrong. When a fracture involves a joint surface, prolonged immobilization can cause the fracture in the cartilage to be filled in with scar tissue which later breaks down and leads to arthritis. Or the membrane around the joint can stick to the cartilage like scotch tape in certain areas. Then the joint fluid, the only source of nutrients for cartilage, cannot reach those spots which soon die. Not only injured joints may be subjected to this deterioration but also healthy ones which are often immobilized for several weeks or months when an adjacent bone is fractured.

The aim of Salter's current laboratory research is to prevent degenerative arthritis. Through almost a decade of careful animal studies, he has been proving that, contrary to long-standing medical belief, cartilage can regenerate. The key is motion—in fact, "continuous passive motion," a completely new concept. He has discovered that if joints are moved continuously for at least one week after an operation, defects in cartilage heal with new cartilage and subsequent arthritis is unlikely. Some day, due to Salter's work, the maxim that tissues must be at rest to heal may be as outmoded as blood-letting, and at least some types of degenerative arthritis may be understood as an avoidable, rather than inevitable, consequence of joint damage.

Robert Salter has throughout his career questioned empiricism and dogma. He describes his attitude as what Voltaire called "the spirit of constructive discontent".

*Pat Ohlendorf is a freelance science writer and editor.*



*Through almost a decade of careful animal studies, he has been proving that, contrary to long-standing medical belief, cartilage can regenerate*

Today his concepts carry weight, with the credibility of 25 years as an internationally respected researcher, clinician and teacher behind him. A Fellow of the Royal Society of Canada, Officer of the Order of Canada, past president of the Royal College of Physicians and Surgeons of Canada and a winner of numerous honours including a Gairdner International Award for Medical Science, Salter is perhaps best known to orthopaedic colleagues for the operation he designed in 1957 to correct congenital hip dislocations, which was promptly designated (by others) "the Salter operation".

When I arrive at his office at the Hospital for Sick Children for an interview, Salter is still in surgery, so I find a seat outside in the orthopaedic clinic waiting area. Soon a tanned, grey-haired figure in O.R. greens and white coat strides through rapidly, followed by a retinue of young men in white coats—and wearing ties—who are struggling to keep up with him. He flings open the office door; they all go into a huddle inside; the door shuts. A few minutes later it opens gently and the senior of the three secretaries ushers me in.

Salter looks as vigorous standing still as in motion. The eyes behind the professorial glasses appraise me steadily and warmly; the hand that grasps mine is firm. He exudes confidence and authority.

"How," I ask, when we have settled ourselves in his inner office, "did you conceive the idea of continuous motion? Isn't it a pretty radical thing to do—to move injured joints continuously?"

"Radical, yes," he repeats, picking up his pipe and beginning the mesmerizing rituals of tapping, filling and drawing, "but innovative and perhaps imaginative too, because it goes against the time-honoured concepts of how to manage injured joints."



After his description of current methods of joint treatment, I launch into the topic that is uppermost in my mind: "Are you getting cartilage to regenerate in humans yet?"

"Everybody wants to know that," he replies with an understanding smile. "They don't want to know about all the research that went on before—just where to push the buttons for clinical application of the concept."

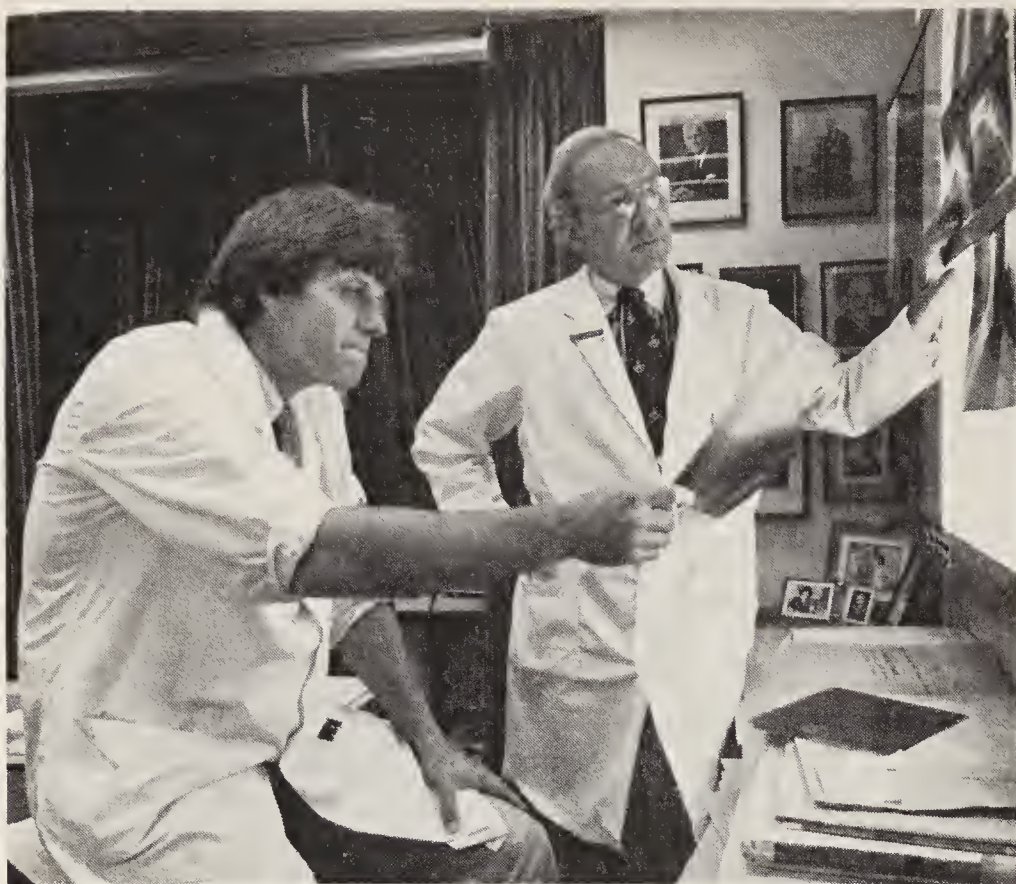
I laugh with him. He leans back in his swivel chair and pauses effectively. "In answer to your question—yes, we have started applying continuous passive motion to human patients."

Even as a medical student, Salter was, as he puts it, "a mover rather than a restor" and a challenger of the conventional wisdom. Against his team doctor's recommendations, he treated his own three football injuries (torn ligaments in both ankles and a dislocated collarbone) not by plaster casts and rest but by taping them and continuing to play end for the U of T's medicine team. "I simply felt that joints were meant to move," he recalls, "and besides, I wasn't keen on sitting out the rest of the season." Although Salter might not recommend such strenuous activity for his patients today, his own experiences made him curious.

"I began thinking of motion as a spectrum," he continues. "At one end is complete immobilization—a cast. In the middle of the spectrum is intermittent motion—either everyday activity (active motion) or passive movement of joints by a physiotherapist. At the other end of the spectrum is continuous motion." Other researchers had been investigating intermittent motion—in animals by cage activity and in clinical studies by getting patients up and about soon after surgery—and the results were somewhat encouraging. But no one had tried continuous motion. To investigate that extreme, a mechanical device was needed because muscles tire. Hence the concept of "continuous passive motion".

Salter had a hunch that continuous motion would not be painful. His own joint injuries had taught him what arthritis sufferers know: that a joint is stiff and painful in the





morning, after it has been at rest for several hours, but the stiffness and pain gradually disappear as it is moved. If, he speculated, a joint could be set in motion immediately after surgery, it might prevent pain and stimulate better healing.

Using a machine for rabbits that he had designed and bioengineers at the hospital had built, he first ensured that continuous motion itself would do no harm. He suspended healthy rabbits in slings and simply moved their knees mechanically in slow revolutions (one complete cycle about every 45 seconds) for several weeks. The animals ate, drank and slept as usual, and appeared comfortable. "The younger rabbits continued to gain weight and the adults maintained their weight," says Salter. "That's a good indication of the animal's health, because if a rabbit is sick or uncomfortable it won't eat. We watched the animals very, very closely because we didn't want to cause them harm."

Next, he set out to determine what kind of tissue forms in injured cartilage with different types of treatment. He drilled narrow holes in the cartilage and bone of the right knee joints of 120 rabbits. One-third of the rabbits were then treated by plaster casts (immobilization); one-third were put into cages (intermittent motion); and the remaining third were placed in the machine before their anaesthetic had worn off (continuous passive motion). When the rabbits from each group were sacrificed weeks and months later, their joints were examined through a dissecting microscope, light microscope and electron microscope, and new tissues were analyzed biochemically. Subsequent experiments followed the same model of three groups of rabbits; most important for clinical application was the study of joint fractures.

The results of the experiments show a strong correlation between motion and healing. The rabbits that were treated by casts fared the worst. None, when examined six months later, had formed new cartilage. If the fractures had closed at all, they had done so with scar tissue and already there were many signs of arthritis. The rabbits left to hop in their cages were somewhat better off. They also had scar tissue adhesions and signs of arthritis, but 20 percent had formed new cartilage. The rabbits treated by continuous passive motion, however, had no scar adhesions, significantly fewer

*Other researchers had been investigating intermittent motion and the results were somewhat encouraging. But no one had tried continuous motion.*

signs of degenerative arthritis, and 80 percent of them had developed new cartilage.

Salter describes these results with scientific understatement, referring to the new cartilage as "tissue comparable to hyaline cartilage". ("Hyaline" refers to the translucent, glass-like appearance of joint cartilage.) To an observer, however, the new tissue is the real thing. The joints treated by continuous motion are as smooth and shiny as normal joints while those from the other groups are grossly deformed. Through the microscope the new cartilage is indistinguishable from the surrounding cartilage while the other groups show striated scar tissue, deformities and gaps. In histochemical tests, too, the new tissue reacts with the staining patterns characteristic of hyaline cartilage.

Although the biochemical and cellular details of cartilage regeneration are not yet fully understood, Salter has discovered that underlying bone as well as cartilage must be affected if new cartilage is to form. Certain embryonic-like cells located in bone appear to be capable of differentiating into bone, scar tissue, or cartilage, depending on the stimulus. And for some reason motion encourages these cells to form bone where bone should be and cartilage where cartilage should be. Lack of motion, on the other hand, only causes rampant growth of scar tissue.

When Salter was certain of the value of continuous passive motion in the laboratory, he asked Professor David James and John Saringer of the University's Department of Mechanical Engineering to build a device that would





*Some members of the research team are permanent but each year Salter selects a resident from the University's postgraduate surgical program to train with him as a basic research fellow. In 1979-80 that fellow was Dr. Robert Bell, aspiring orthopaedic surgeon and scientist, seen with Salter far left. Centre photograph shows the elbow machine fitted on patient. On the right, Salter against a familiar background.*

provide continuous passive motion for the human knee joint.

The first patient to try the new machine was 16-year-old Michelle who had been born with a condition that caused her knee caps to dislocate easily. In July 1978 she had fallen down a flight of stairs, severely injuring her left knee. Extensive repair work, after which her lower limb was in a plaster cast for two months, was done by a surgeon in her hometown in southern Ontario. However, the knee only seemed to get worse. When Michelle was admitted to Sick Kids, in July 1979, she couldn't support any weight on her left leg. She had not attended school since January and had been on crutches for a year. Her knee was swollen, red and painful and the muscles attached to it had atrophied. She was unable to straighten her leg and could bend her knee only 25 degrees of the normal 150-degree range of motion. Although she was not the ideal patient for what was essentially a clinical trial of a new method of treatment, Salter felt that Michelle needed something more than conventional methods.

He operated, removing the abnormal bony spurs and massive scar adhesions that had built up since the previous operation, and rebuilt her joint using her own tissues. Then, as with the rabbits, before Michelle's anaesthetic had worn off, he attached her left foot to the pedal of the machine, which began moving her lightly bandaged knee passively in the slow revolutions that continued night and day for almost three weeks.

When I phoned Michelle, she was eager to talk about her unusual experience at Sick Kids. "I was scared when Dr. Salter told me what he was planning to do," she admits. "I remembered the pain when I woke up from my other operation and I thought, 'Oh wow, this is going to be twice as bad because the knee will be bending too!'"

But what sounded like a torture device actually turned out to be pleasant. "When I woke up, the first thing I saw was my knee bending and I was almost crying because it didn't hurt at all! I never had to ask for needles for pain because I didn't have any. I just couldn't get over it! It felt so good to get it bending again."

Michelle fell asleep easily, lulled by the slow, regular

motion; she became so used to the machine that she even had to be weaned off it gradually when it came time to go home. "My life has changed so much since then," Michelle says. "It's just a normal knee now."

Although Salter's face lights up as he recalls the details of Michelle's treatment, he is cautious about making long-range claims. But since she still has no pain or stiffness in her knee more than a year after her operation, and since her X-rays are perfectly normal, he admits the chances are very good that she, like the many continuous-passive-motion-rabbits before her, has developed new hyaline cartilage and that she will continue to have excellent function in her knee for the rest of her life.

Increasingly, patients recovering from other types of surgery are encouraged to move about early but orthopaedic practice still includes putting joints in casts for several weeks or months. "Heart muscle moves continuously after open-heart surgery," Salter observes, "and the incision heals. Same thing with the lung and bowel. The trouble is, it's easy to immobilize joints, so it's been done for centuries." Convincing other surgeons to change old habits, Salter realizes, will require good results with many human patients. His clinical applications are just beginning. U of T engineers have built two new machines, one for the elbow (see photo) and one for the finger, and so far three patients since Michelle have been treated by continuous passive motion.

Meanwhile, Salter's laboratory work is taking new turns within arthritis research. He has just completed studies on septic arthritis and torn ligaments and is confident that patients with these problems can be treated successfully by continuous passive motion. In addition, Salter and his research fellows are currently trying to simulate rheumatoid arthritis in rabbits, in order to study the effect of motion on this condition.

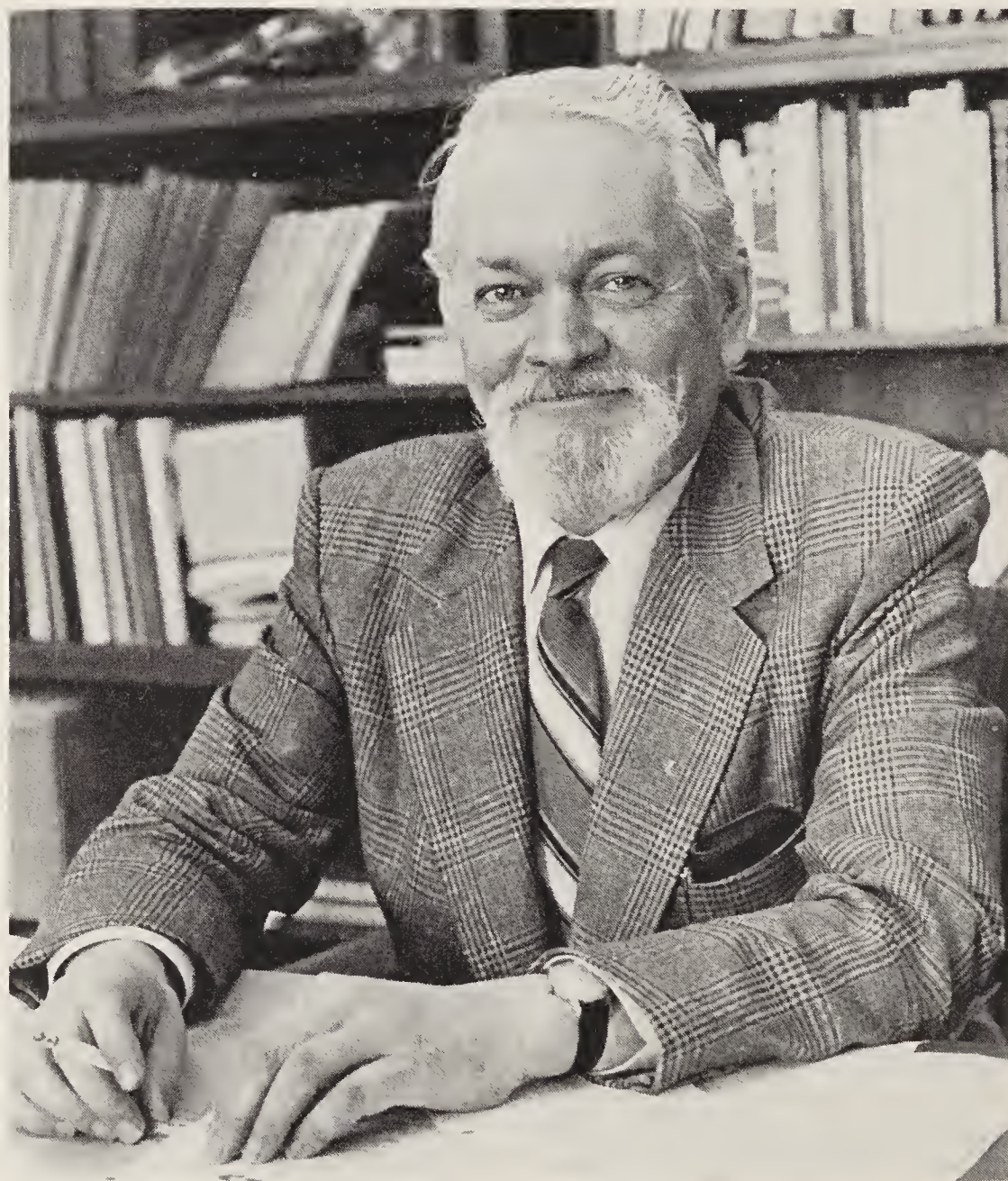
Unlike his rabbits and patients, Salter himself seems to thrive on continuous active motion. Although his research is a high priority and he hopes to devote himself to it full-time when he retires in 10 years, at present he also has teaching responsibilities, administrative duties, frequent visiting professorships and scientific meetings and a demanding clinical practice—and still finds time for his wife and five children. He jokes about his tight schedule, even seems proud of living on one meal a day and five hours of sleep per night and getting up to read or write at 4.30 every morning (except Sundays, when he sleeps in till seven). Two rare indulgences in this life-long marathon seem to be his hobby of heraldry and his 30-year-old sports car, a snazzy, topless Allard, which he drives to work year round regardless of weather.

As for Michelle, she's content to have a normal knee. After swimming, cycling, roller-skating and playing tennis all summer, she's looking forward to winter so she can try out her new skis! ■



# GLIMPSES OF THE SMALL AND MIGHTY

*God may have had an inordinate fondness for beetles. Professor Chant prefers mites.*



*By Donald Chant*



Insects are fascinating organisms. They are among the oldest forms of life inhabiting the planet (the cockroach for example, has been around for 200 million years) and there are more kinds of insects than all other animals put together. There are about one and one-half million species of insects, all told. Curiously, about 800,000 are beetles. When asked about this statistic in the 1880s, a reverend English gentleman, who was also an amateur entomologist, replied that God must have had an inordinate fondness for beetles. Obviously, he was not a Darwinian.

Insects range in size from microscopic to scarab beetles as large as bars of soap. They thrive in the tropics and on arctic glaciers. Their food habits are almost infinite — one beetle even being capable of boring through sheets of lead.

Many people think of insects as being our constant competitors for food and fibre, of the insect world as a ravaging horde, of all insects as pests. Actually only about 10,000 insect species cause us any harm at all and only a few hundred can be considered serious pests. Nevertheless, these pests cause losses to agriculture, forestry, livestock,



fabric and human health running into many billions of dollars every year and vast sums of money are spent on trying to control them, about one hundred and fifty million dollars in Canada annually.

There is a reason why most insect species never become sufficiently numerous to enter into conflict with us. It is the intricate system of interacting natural checks and balances which serve to regulate the populations of all organisms.

*Big fleas have little fleas  
Upon their backs to bite 'em.  
Little fleas have lesser fleas  
And so on, ad infinitum!*

An important element of these natural regulators, or natural controls, are parasites, predators and diseases. In short, these carnivores feed on the plant-feeding insect pests and regulate most populations at levels below those that would cause us concern. When they fail, we have outbreaks of pests.



The first major success of biological control was achieved in the 1880s, in California. The cottony cushion scale insect was killing citrus trees and the future of the orange industry looked bleak. An entomologist, sent on a world-wide hunt to try to find a natural enemy which would control the scale insect, discovered that a close relative of the cottony cushion scale in Australia was controlled by a small, predacious ladybird beetle, *Vedalia*. He shipped some live specimens home to California, they were released in the citrus groves, and within two years the pest disappeared and the groves were saved.

There is, however, a footnote to this story. The years went by and everyone forgot that the scale insect had ever been a problem — until in 1947 a terrible outbreak occurred that once again threatened the orange groves. The reason for this was simple. DDT was being widely used to control other citrus pests. Simple tests soon showed that DDT is deadly to the predacious *Vedalia* ladybird beetle but virtually harmless to the scale insect. Freed from the control exerted by the predator, the pest rapidly increased to outbreak proportions. The use of DDT was quickly halted (Canada did not follow suit until 1969) and balance was once more restored. The moral is obvious.

Since that early success in 1880, more than 200 major pests have been controlled by biological control. In Canada these include the wheatstem sawfly, the European earwig, the spruce budworm in B.C. (where it does not have the same potential to be a pest as in the Maritimes), several species of plant lice (aphids), the greenhouse whitefly, the larch sawfly, some scale insects, apple mealybug, satin moth, larch casebearer and the spruce sawfly.

I should pause at this point to dispel a common myth about biological control. Natural enemies of insects are very specific in their food habits. When they have done their job and eliminated the pests, they do not suddenly run amok and attack anything that moves. Their own populations quickly fall and they establish a low-level balance with the reduced pest population.

To return to my own personal involvement: insects have many relatives and among them are the mites, or Acarina. The major differences are that insects have three pairs of legs, mites have four. Mites are mostly very small, much smaller than the head of a pin, and are at least as variable as insects. Unlike insects, they have successfully colonized the

marine environment. Mites have been dredged up from the ocean floor, thousands of fathoms deep. Every one of us has mites on us — skin mites. Mites live in the ears of moths and the nasal passages of hummingbirds. A Stilton cheese is not considered ripe until it is literally moving with cheese mites. Mites are everywhere and yet most people have never consciously seen one — unless it be the earth mite in the garden, looking like a tiny fleck of moving red velvet.

As a group, plant-feeding mites (tetranychids) are one of the most serious agricultural pests around the world today. Tetranychids infest almost all domestic plants, from avocados and apples through cotton to zucchini, causing hundreds of millions of dollars' damage each year.

Fortunately for us, other kinds of mites are predators of the plant-feeding mites. These predacious mites, phytoseiids, have been the objects of my research for the last 30 years, and I think I can safely say that I know more about them than anyone else does.

When I began to study phytoseiids in 1950, there were 21 species known. Today, well over 900 have been described scientifically and there are undoubtedly thousands more waiting to be discovered.

All mites belong to the order Acarina. My particular kind of mites belong to a subset of the Acarina, the sub-order Mesostigmata (breathing aperture along the sides), family *Phytoseiidae*, genus *Amblyseius* (which means "God's little creature who walks around").

Groups of species with common anatomical characteristics may well have other characters in common and hence taxonomy, the study of classification, can form a predictive base. There is an excitement in taxonomy, in discovering and naming new forms, and in extending our knowledge of the breadth and diversity of the group. There is also ego-satisfaction because the name of the original describer becomes part of the species name for all time. Hence, *Amblyseius* (the genus), *hibisci* (the species), Chant (the describer) is the full scientific name of a phytoseiid mite species I discovered on hibiscus leaves in California. Eventually it was found to be quite a good predator of the citrus red mite, a pest.



But the real excitement, the real fun, is in studying living mites — in learning about their basic biological traits, their habits, their behaviour. Nature truly is a wonder to behold.

One of the most interesting predacious mites I have studied was discovered in Algeria in 1957. In 1959, I discovered that this is an extremely predacious species that could effectively control plant-feeding mite pests on certain greenhouse crops.

*Phytoseiulus persimilis* is its name (it has no common name). *P.p.* is a truly elegant and fascinating little beast. It is just barely visible to the naked eye as a tiny, reddish-brown speck — and yet it is very intricately designed. It has long legs and can move very rapidly. It has little lobster claws for grabbing its prey, and hollow stylets for sticking into its prey and sucking out its juices. Its fat, oval body is covered with protective plates and spines. It has no eyes or sense of smell, and apparently discovers its prey by randomly walking

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*Professor Chant, then vice-president and provost, fascinated those at the Alumni-Faculty Award dinner with a view of his field. He is the fifth winner of this annual award.*



around a leaf until it bumps into it. Its prey usually occur in groups and when it encounters one prey and eats it, it changes its searching behaviour to concentrate on that local area.

*Phytoseiulus persimilis* goes from egg to adult in five and a half days, and begins to lay eggs about one day after it matures. It is the only predator I know that has a generation time shorter than that of its prey, plant-feeding tetranychid mites, which require about 10 days to mature. In this way, the predator out-produces its prey and becomes abundant enough very quickly to reduce it to very low levels.

Imagine if wolves and weasels bred faster than rabbits and mice. Such a situation would be very bad news, indeed, for the latter, who have a rough enough time as it is!

*Phytoseiulus persimilis* is also a prodigious eater and can consume up to five adult prey per day. This would be the equivalent of a person eating about 300 pounds of food per day.

*Phytoseiulus persimilis* is an awesome user of its food energy. Its most notable feature in this regard is its reproductive powers and the sheer bulk that it produces. For many days on end, when well fed, a female *P.p.* lays three to four eggs per day and each egg is about one-fifth its body size — so, in about 30 hours, the female produces her own body volume in eggs. Think of what this could do to the chicken industry! Think of what it would be like if women had eight to 10 babies a day for weeks on end! Such performance makes our nine-month requirement per baby, or the elephant's 22 months' gestation period, pale to insignificance.

Adult female *Phytoseiulus persimilis* carry on in this fantastic way for about 22 days in a total life span of 40 days. It will come as no surprise to learn that the females must mate several times to sustain this remarkable productivity. No one has studied the physiology of *P.p.* to explain this incredible phenomenon — a problem begging examination.



The plant-feeding tetranychids — the prey of *Phytoseiulus persimilis* — are called spider mites. They are not, of course, true spiders, all of which are carnivores. They do, however, spin silk webbing in extensive sheets on a leaf. This is not to trap other organisms *per se*, as with spiders, but rather to protect themselves from their enemies and the elements. This doesn't work with *P.p.*, which climbs over and through the webbing with impunity in its constant search for prey. With another predator we have studied, however, *Amblyseius degenerans*, this defence is very effective. *Amblyseius degenerans* does not like the silk webbing and stays away from it entirely. Under some circumstances, *A.d.* may be a more effective predator than *Phytoseiulus persimilis*: for example, it can survive on lower prey populations than can *P.p.* and can hold low levels down after *P.p.* has starved or moved away to greener pastures. Ideally, perhaps the two species acting together might provide the best control, *P.p.* hitting the pests at outbreak levels and reducing them quickly to lower numbers where *Amblyseius degenerans* can take over. We are just now beginning experimentation on this possibility.

As is so often the case, predacious phytoseiid mites are more vulnerable to chemical pesticides than are the pest species. Therefore, spray programs have to be devised that will provide the highest degree of control for the entire

spectrum of pests on a crop and at the same time have the least effect on beneficial predators. This has already been done with some success in areas as diverse as England, western Europe, parts of Canada and the U.S., New Zealand, Japan, China and South Africa. The greatest successes have been with fruit crops, but also some field crops such as cotton, as well.

Where do we go from here in our research? We know enough about perhaps a dozen of the 900-plus species to begin to use them intelligently in the field and to begin to design spray programs for insect pests that will not wipe out the predacious mites and allow the plant-feeding mite pests to flourish, unchecked, and inflict their damage. But we know absolutely nothing about even the most elemental biological characteristics of the remaining hundreds of species beyond the surmise that not all are highly predacious and that, in fact, some may earn their living feeding on pollen grains and fungal spores and other plant sources of protein. In short, some may not be predacious at all. It certainly cannot be assumed that all phytoseiids are potential natural enemies for biological control. To do so would waste a lot of time and effort and lead to serious failures at control.



First, for the future, is to extend our knowledge of the family Phytoseiidae itself. How many major groupings are there? What is their natural geographical distribution? What assumptions about their habits and behaviour can we make on the basis of their physical characteristics? Are there other species with the same aggressive traits as *Phytoseiulus persimilis* that would be useful in biological control programs? Research that we have done over the last few years shows conclusively that the phytoseiid fauna is richest in the tropics and sub-tropics and it is to these areas that we must turn our attention. The fauna of the sub-arctic and arctic areas has been shown to be simple and lacking in diversity. In fact, I believe that most of the species in arctic Canada have already been collected and described.

Second, for the future, is much more research on the biological characteristics of many more species. We must learn enough to be able to select those species which have potential for controlling pests and we must also identify the environmental conditions under which they are most effective. One could spend a lifetime and never know everything about even one species of these little animals and so considerable effort must continue to be given to identifying the key characteristics of the ideal predator.

I have tried to state the reasons for the importance of this research in practical terms of the economic and environmental benefits of biological control. Let me end with the personal benefit of research in this area — the sheer joy, excitement and intellectual stimulation of learning new facts about these fascinating creatures. Phytoseiid mites are like tigers in their miniature world, stalking their prey blindly, like mindless robots, through the jungle of hairs on an apple or bean leaf. If they were the size of a real tiger, they would have eliminated us eons ago. We would simply have been a footnote in the evolutionary history of the world. Their study has led to a very privileged life for me thus far — that of an academic with vast worlds of information to learn about in a field where almost every collection and every experiment leads to new understanding. Who could ask for more? ■





# OLD PEOPLE: OUR FASTEST GROWING MINORITY

*The proportion of over 65s will reach nine percent next year, twenty percent by the year 2020. Are we ready?*

*By Naomi Mallovy*

**A**t 75 Mrs. T. is a charming, white-haired lady, thin, and a bit stiff because of her arthritis, but generally pretty mobile. She's lived alone since her husband died five years ago, and so far, with the help of family, neighbours and friends and a weekly cleaning woman, she's been able to cope. She does find it a bit lonely, this living alone, but she manages to get out to visit her friends as much as her diminishing energy and the exigencies of the weather permit. And mainly to keep her mind alert, she's taking a university course—this year it's 20th century literature, last year it was medieval art and architecture. She enjoys the reading involved and the conversations with her fellow students, most of them a good 50 years younger than she is. Besides, now she can talk shop with her grandson who's also studying many of the same books.

Though she may be exceptional in her keen interest in life and in her financial security (50 percent of Canada's old people, the majority of them women, live below the poverty line) she is, at her age, no longer a member of a small minority. There are few babies around these days, and with the lowering birthrate and a progressively aging population, the over 75s are the fastest growing group in our society. The proportion of old people (over 65) is expected to reach nine percent by 1981 and a whopping 20 percent by 2020, or a cool six million. Partly it's because more people are living longer—life expectancy for men is 71, for women 74,

compared to 60 and 62 as recently as 1931. Also the baby boom kids are growing up, and when that supersized wave hits the geriatric scene, anything can happen. The hippie movement of the '60s and early '70s, with its protests, its drugs, its vagabonds, its anarchic music, its attacks on most of our traditional values, was caused largely by a greatly disproportionate number of young people in the population. When the same imbalance develops in the older age groups, there are bound to be repercussions, in a different form. Grey power. Numerous aging feminists. Activist groups. No longer the emphasis on youth in the workplace and the marketplace. Demands for part-time work and better housing, recreational facilities, larger pensions. Complaints from younger breadwinners supporting so many elderly dependents. Possible discontent and generation struggle. Super-long waiting lists for hospital beds and nursing homes. What are we doing to prepare for all this? And, compared to our knowledge of childhood and youth, what do we know about old people?

In the U of T's gerontology program, a multidisciplinary program headed by Dr. Blossom Wigdor that co-ordinates research and teaching in the health professions, social sciences, architecture and law, some of the answers are being sought. To train professionals in the field, a diploma course at the graduate level, a two-year, part-time study

*Naomi Mallovy is a Toronto freelance writer*



course for both students and the general public, will be offered in 1981. And at international symposia like the one organized last June at Erindale College by psychologist Fergus Craik, preliminary steps are being taken to collect the fundamental knowledge upon which decisions can be made. After all, how can you determine such things as an appropriate retirement age or the possible need for old people's residences and homes without really knowing what old people are like, and at different ages?

When she became 60, it was a blow to Mrs. T., almost as bad as becoming 40 and theoretically turning middle-aged. At 60 she became officially "old", but "young old" as the social scientists call the 60-80s group, compared to the "old old" 80s to 100 plus. Actually, aging is not an overnight process; in fact it starts early in life with a gradual slowing down of physical and mental processes. The number of brain cells steadily decrease from age 20 to 90, there's a slowing in reaction time from age 30 onward, and as the years go by, as Dr. David Drachman of the department of neurology, University of Massachusetts Medical School puts it, there's less energy in the form of oxygen, blood and protein processed through the body's system to run the

cellular machinery. The memory which has peaked by age 18, declines sharply in the middle years, then levels off in the period 36-70, followed by a sharp drop in the 70s and an even sharper drop after age 82, according to psychologist Irene Hulicka of Buffalo's State University College. Actually the 60s, taking into account not only mental abilities but self-image and social adaptation, can be a golden age, she says. Mrs. T., a positive sort of person, thought so too, and once she got over the shock of turning 60, and later 65, and in spite of minor ailments, she enjoyed the decade herself. Her children had flown the nest, her husband was still with her, there were plenty of interesting things to do, and she had reached a position in her work and her personal life where people looked up to her. It felt good.

In her late 60s, Mrs. T. gradually began to give up her various part-time and volunteer jobs, which she didn't miss too much because she had plenty of other interests like gardening and a church group, and still the responsibility of cooking and keeping house. However, as more and more mature women are pursuing full-time careers, they may find it as difficult as many men do to wrench away from the accustomed routines, challenges and companionship of their jobs. Also, if women continue to marry men older than themselves, there will be more retired men whose wives are still active in the work force while they sit at home.

For Mr. T., a professional man, retirement was not too abrupt since he was able to carry on as a consultant for some years, gradually reducing his work load while he built up other interests and hobbies. Dr. Irwin Hilliard, professor emeritus of the University of Toronto and president of the American Geriatrics Society, favours this type of gradual retirement, possibly even the sharing of jobs by two elderly people. He bases his philosophy of aging on Toynbee's view that civilizations that had challenge and success were more productive than those with so much challenge there was failure, or such an easy time there was no challenge. People are the same, he thinks; they need the right balance of stress, challenge and success, though with older people, the stress should be for shorter periods, as in part-time work. An auto union that gained retirement for its workers at age 55 noticed that the number of retirees who survived the next 10 years was much less than amongst those who kept working. When they offered part-time work instead of mandatory retirement, a definite drop in the death rate was noted. A system of gradual or optional retirement, Hilliard thinks, would not only benefit elders but would leave society with fewer of them to support, a prime consideration when a dwindling work force is required to support a growing number of oldsters.

The sudden retirement, with the gold wristwatch, the glad handshakes, and goodbye can be bad not just for economic reasons but for emotional ones too. Among Mr. T.'s contemporaries were a number who had died soon after retirement mainly because, he felt, they no longer had a feeling of purpose and usefulness. On the other hand, he had friends who couldn't wait to retire in order to paint, to golf, to travel, to start a small business, to organize projects for underprivileged children or elders. One had even built a ketch in his spare time so he could sail around the world when the great day came.

It seems that the people who were active, outgoing and with many interests at 40 were more apt to remain that way at 60 or 70. They laid the foundation for a good old age throughout life, according to their lifestyles, intellectual pursuits, care of their health, moderation in drinking and the use of drugs, abstaining from smoking, and other

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5.





*Mental exercise, in the form of stimulating experiences, is as important as physical exercise in maintaining mental and physical fitness.*

factors. Tests show that the level of education in a person's past helps maintain mental abilities in later years and that mental exercise, in the form of stimulating experiences, is as important as physical exercise in maintaining mental and physical fitness.

Of course the greatest interest of the Ts was their family and watching their grandchildren grow up. Yet with divorces common, it becomes more difficult for some grandparents to enjoy their grandchildren; they may even need to demand right of access to them. And with the increasing numbers of childless marriages, there will be many elders who will never know the joy of grandchildren, or the sense of immortality it gives them.

As Mr. and Mrs. T. got older, they couldn't help noticing how they were becoming more and more forgetful. Mrs. T. would put down her specs and forget where she'd put them and, without them on, have the devil of a time finding them. Not that this hadn't happened often enough in the past, but now things like this seemed to happen more often; they were more than momentary memory lapses. Mr. T. was even more forgetful. Once when the car broke down, he said to Mrs. T., "Never mind, we'll drive back to that garage we just

passed and get it fixed," quite forgetting that the car wouldn't go. Another time Mrs. T. asked him to go upstairs and change before guests arrived. He went upstairs, got undressed, and then, as habit took over, he went to bed, where Mrs. T. found him half an hour later.

It's important, says psychologist David Schonfield of the University of Calgary, that older people concentrate on one thing at a time—to remember what they went upstairs for, to learn the name of just one new person they meet at a party, never mind the rest. It's best that their attention not be divided, that they not try to carry on a complicated discussion while coping with rush hour traffic, for instance. Also that they develop strategies for remembering, like keeping written records, or reviewing events right after they happen.

But while forgetting recent things may be a problem, the old have the advantage of a greater storehouse of knowledge and experience. Their accumulation of learning continues to increase, explains Blossom Wigdor, though their memory declines for new learning. And tests show that the vocabulary of U of T alumni is superior to that of undergraduates. Despite some disadvantages, if older people reached their full learning potential, they could reach levels unmatched by younger persons operating below their potential, maintains Paul Baltes of Pennsylvania State University. It's like a 76-year-old marathon runner who had trained, beating the time of a 40-year-old who had not.

Nevertheless, all old people do suffer varying degrees of decline in memory and cognitive function. But those with Alzheimer's disease, the fourth largest killer in North America, undergo a rapid loss of memory until they can no longer function normally. The disease, which usually attacks people over 65, though not restricted to this age group, is quantitatively but not qualitatively different from normal aging, in that there is a greater loss of neurons. There is a gradual decrease of brain cells from age 20 to 90 with everybody, and the weight of the brain decreases 30 percent in the process of aging, with Alzheimer's disease the deterioration is just more rapid. Since traces of aluminum have been found in Alzheimer patients, it's hoped by U of T's Dr. Donald McLachlan and others working in the field that barriers to the absorption of this substance by the brain cells can be found. As for general memory loss and senility, it's been discovered that certain drugs like lacithin and physostigmin can improve memory and learning capacity in mice, and research is proceeding in this area. Who knows, in the future our memories may be improved with a Memory Pill—that is, if we remember to take it.

While the diseases of childhood have been conquered, far less attention has been given to the diseases of age. Consequently more people are surviving infancy, childhood and middle-age, and living to encounter the major threats of age: heart disease, cancer, arthritis and Alzheimer's disease. It's estimated that 75 percent of old people have some sort of chronic disease, quite apart from the usual loss of strength and slowing up that comes with age. This situation presents major problems for the medical profession and government.

Unfortunately, like many men in his age group, Mr. T. succumbed to a heart attack. After his death at age 76, Mrs. T., a widow, became one of the army of elderly women. There are almost twice as many elderly women as men, with the surplus of women increasing with age. And, as York University sociologist Judith Posner observes, there's a certain loss of prestige in being not only old and female but a widow.

In her late 70s it became harder for Mrs. T. to get around.



She no longer drove a car, and it became progressively more difficult to walk along icy streets, to climb into buses (and maintain her balance when they started and stopped) and to cope with subway stairs—all things that enlightened planners could alleviate. She knew it would be good to continue her university courses, attend the church group, but who would she go with and how to get there—carpools? mini-buses? outings-on-wheels? There were none available to her. Being proud, she didn't want to impose on her family too much; besides they were busy working and coping with demanding teenagers.

However she did manage to live alone fairly comfortably until the time came when she was about 83, and her arthritis made it hard to move about. Also her eyes were giving out—she had to sit about a foot away from the TV set in order to see—and her hearing was poor, so that reading and listening to music became less and less possible. Her children were faced with the heartbreaking problem of what would be best for her — leave her where she was with costly daily help, bring her to live with them—they had little space and were out working all day—or find a suitable nursing home for her. It's a problem many old people and their families face, at this age or earlier.

Authorities differ on what's the best solution. Dr. Jerome Avorn of Harvard Medical School's division on aging believes that it's better to keep people in their own homes, in a useful capacity, as long as possible, even if it means that the government supplies them with medical and housekeeping services there at, incidently, much lower cost than in hospitals or nursing homes.

On the other hand U of T's Dr. Hilliard thinks that old people, tucked away in little rooms and apartments, may suffer terribly from loneliness and neglect. More families might be able to keep them if there were clubs where they could keep occupied during the day and residences where they could spend, say, one weekend a month and the summer holidays, to allow their families some freedom of movement.

Both agree that a senior citizens' or nursing home must allow the residents some share in running the place, some responsibilities such as recreational committees, caring for plants, pouring tea, for those who are able, some choices and, above all, a feeling of control over their lives. Hilliard recalls one oldster in hospital recovering from a heart attack, who wanted to return immediately to her "home". "I'm chairman of the social committee. They're meeting tonight, and if I'm not there, they won't do a darn thing," she protested. The position of responsibility had given her a reason for getting better.

For some, nursing homes are the answer, if they are of the right type. But there are other alternatives. Canada has one of the highest rates of institutionalization of old people in the world—8.4 percent compared to 5.1 percent in Great Britain and 6.3 percent in the United States, says U of T's Dr. Cope Schwenger. (Canada has more young people, more mental patients and more law breakers in institutions than most other countries too.)

Obviously there's need for much more study, not only on the process of aging and the medical problems, but on how to make the declining years happier and more productive. Canada's old people can't all be ghetto-ized in Florida or Victoria, tucked away in nursing homes, or left alone in their rooms. Imaginative solutions must be found for what will soon be a major segment of the population, a segment which includes inevitably all our parents, and eventually, inevitably, ourselves. ■

# BANNED IN PRAGUE

*But Josef Skvorecky's smuggled books pass rapidly from hand to hand until they fall apart.*

*By Pamela Cornell*

## CZECHOSLOVAKIA: a picturesque town in the mountains: 1938

*A 13-year-old boy cranks the handle of his parents' gramophone. He puts a thick, bakelite record on the turntable, sets the needle in place, and stands back to listen.*

*A startling sound emanates from the machine's horn. American music. Jazz.*

*The voice of a young woman scampers and leaps —*



*sometimes sweet, pure, limpid — sometimes sultry, raucous, gravelly. Under it, around it, through it, comes an instrument the boy has never heard before. A saxophone. He's riveted. To him, it's music from heaven. A revelation. A transforming experience. The record is I've Got a Guy, sung by Ella Fitzgerald at 19, with Chick Webb on sax. Hearing it is a turning*

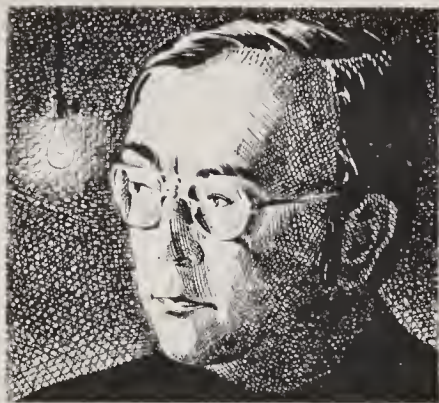
*point in Josef Skvorecky's life.*

## PRAGUE: Charles University: 1951

*Skvorecky is a man now — a man who has seen his homeland succumb first to the Nazis, then to the Russians.*



Here at the university, he is writing his doctoral thesis on Thomas Paine — the pamphleteer whose rhetoric helped focus public outrage leading to the American Revolution. Paine's self-professed goal was "to rescue man from tyranny and false systems of government and enable him to be free". Skvorecky's thesis relates Paine's thoughts to present times.



### TORONTO: Erindale College: 1980

Josef Skvorecky, novelist and professor of English, is awarded the Neustadt international prize for "distinguished and continuous artistic achievement" in literature. (Also considered for the prize was German novelist Gunter Grass.)

The jury consisted of contemporary writers and critics from 10 countries. Said one juror: "In Czechoslovakia, a country that has not had any democracy for over 40 years now, books like those of Josef Skvorecky have become forbidden fruit on the one hand and a hope for dignity and freedom on the other." He is "truly a symbol of fearless and free writing".



Jazz — that music of spontaneity and individual expression — is a recurring motif in Skvorecky's writing. An alternative consciousness in a totalitarian society. A metaphor for the elusive spirit of freedom.

Josef Skvorecky has been in Canada 11 years now, yet he still writes in Czech about the homeland he will probably never see again. Despite his exile, he's more prolific than ever, his output in the past decade exceeding that of the previous two.

"Freedom," he says. "It's simply the freedom. You don't have to think twice about writing a sentence."

That freedom is not enjoyed by most of his Czech readers, who face the threat of prosecution and imprisonment for the crime of possessing one of his books because Skvorecky is considered an enemy of the state.

His political notoriety originated with his first novel, *The Cowards*. Written when he was just 24, it was published during a brief political thaw in 1958. Within two weeks, it had provoked what remains the major Czech

literary scandal since the Second World War. Five editors and one reviewer were fired and all copies of the book were confiscated.

The author was subjected to a five-hour admonition by a party literary tribunal and to a compulsory educational tour of a coal mine to put him in touch with the working class.

What caused all that furor? Reading *The Cowards*, it's hard to imagine anyone considering it subversive.

Set in the mountain town of Kostelec, the 400-page novel spans only seven days, but they were seven dramatic days in May 1945 when the Nazi tyrants were routed and the Russian "liberators" arrived.

The events, the people, the landscape are all seen through the irreverent eyes of Danny, an adolescent with a passion for the saxophone and for a girl named Irena (who loves someone else). Caught up in the immediacy of each moment, Danny is as ambivalent about the prospect of communist control as he is about his own future. At the end, though, he realizes that, in spite of himself, he's been thrust into a new phase of his life, leaving behind forever his youthful innocence.

The book was banned, says Skvorecky, not for being against the political system, but for being indifferent to it.

Being a banned author, Skvorecky couldn't have his own writing published so he survived by translating the works of others — among them, William Faulkner, Ernest Hemingway, Dashiell Hammett and Raymond Chandler.

Then, under the semi-freedom of '60s neo-Stalinism, *The Cowards* was reprinted and became a bestseller. Meanwhile, Skvorecky was participating in the Czech cinema's new wave as a scriptwriter and occasional actor. From that experience came his major study of Czech film, *All the Bright Young Men and Women*.

He was also able to publish a novella titled *The Bass Saxophone* and a detective story, *Miss Silver's Past*, set against the background of a state publishing house and offering an ironic look at the political principles by which literary works were judged. Not surprisingly, that book was one of the first to be confiscated after the Soviet invasion of '68.

The calibre of Skvorecky's fiction gave him ready access to prestigious publishers in England, France, Germany and the U.S. But in Czechoslovakia — well, that *was* a problem. At least until his wife found a solution, three years after their arrival in Canada.

Zdena Silivarova is a former singer and actress — a gregarious, energetic woman. Severed from beloved friends and places, and unable to speak English, she suffered from acute homesickness. As therapy, she founded '68 Publishers, dedicated to keeping underground and exiled Czech writers in print.

More a cultural institution than a business, '68 Publishers averages 20 titles a year, mostly fiction and poetry. On the mailing list are some 5,000 names, with addresses ranging from Las Vegas to Nepal, from Rhodesia to the Freedom Islands.

As each of Skvorecky's novels is published, 300 copies are smuggled into Czechoslovakia where they are passed secretly from hand to hand until they fall apart. No one is supposed to keep them longer than 48 hours.

"In any dictatorship," he says, "literature is more than entertainment and culture. It's also a means of coded protest. Where the press is censored, people read and respond eagerly to fiction because it's one of the few sources



of accurate information about life in their own country. They can identify with it."

Appreciation for Skvorecky's work is indicated by the amount of fan mail he receives — an average of 15 letters a day, all of which he answers.

The literary heavyweights have given their stamp of approval, too. Graham Greene has said Skvorecky "can stand comparison with Chekhov" and a reviewer in *The Nation* elaborates: "Both Chekhov and Skvorecky give us a sense of complete commitment to their characters and to the belief that literature, every careful word of it, can change people's lives."

Other reviewers praise his technical deftness, his storytelling skill, and his sensitive control of mood and pace.

*Newsweek* rhapsodized over the way jazz infuses both structure and theme: "Skvorecky writes like Paul Desmond improvising a free-floating solo."

The writer himself speaks diffidently of his accomplishment: "They say a man with a small talent can write a good book if he has a good subject. War and political oppression provide dramatic situations that don't exist in peace-time or in a democracy. It's much harder to write about a sensitive being living a full emotional life in a small Ontario town because what's happening is so subtle."

Most of Skvorecky's novels go back to the mountain town of Kostelec and feature saxophone-playing Danny at age 19 or 20.

"I'm one of those writers who returns to the formative years because I don't believe you learn much after 21. When you're older, you're more experienced, but your emotions aren't as fresh.

"And the longer I write about my favourite characters, the truer they seem to become. Now they're more beautiful, more poetic, and more real to me than ever.

"Even my latest novel, *An Engineer of Human Souls*, though set mainly in modern-day Toronto, is still about the same little town. A professor falls in love with a young student but keeps thinking back to Kostelec because their conversations are so similar to conversations with another girl 40 years earlier."

Skvorecky delights in dialogue, although writing it didn't always come easily.

"Conversational Czech almost became extinct in the 18th century, when our country was annexed to the Austrian empire. Since all the schools taught in German, the Czech language survived only among illiterate people. So while the novel was flourishing in England during the 19th century, Czechoslovakia had virtually no prose tradition.

"I'd never had any trouble writing descriptive passages but I wrote dialogue as though people spoke only to inform each other. Of course, I should have known better. Having been brought up a Catholic and being preoccupied with girls, I'd worked hard at developing my conversational skills because that was the only way to make contact without sinning.

"But I couldn't capture it on paper until I'd read Hemingway's *For Whom the Bell Tolls*. Then I saw how to make dialogue serve many functions, especially between men and women. He opened my eyes."

Skvorecky maintains that a writer's first duty should be to his craft and then to describing the human situation truthfully. He deplores writers who sell out by trying to adapt their talent either to the market or to some political requirement.







He tells of a Czech novelist named Paral — a “born social critic”, first published during the relatively liberal period of the '60s.

In a series of novels about an industrial town in northern Bohemia, Paral drew a devastating picture of a monotonously uniform life — a mindless consumer society, its members living cheek-by-jowl in high-rise apartments with paper-thin walls, then trooping off to huddle together in the same weekend resort areas.

After the political clamp-down, a chastened Paral wrote another series about the same town and with the same characters. Only this time, he devoted all his literary resources to celebrating the joys of communal life: the spirit of comradeship as the wives bent over laundry tubs and simultaneously scrubbed their husbands' shirts, the symphonic sound of toilets flushing throughout the high-rise, the electrical engineer — previously bored senseless in his routine production-line job — now marvelling at the beauty of red and green bubbles in a solution used to test some bit of apparatus.

“Dramatic conflict might centre around embezzlement or production problems,” says Skvorecky, “but never around the most important issue of northern Bohemia — political repression.”

What about Canada then? Do we have a central issue?

“Political naïveté,” he replies. “We’ve become used to the illusion that nothing can destroy our way of life. We’re critical of the Americans and we resent their power, but we can’t do without them. They’re our only guarantee against dictatorships spreading worldwide.”

“We take for granted any values worth fighting for, such as intellectual freedom and legal safety. I guess it’s human nature not to appreciate the things we have.”

“But it’s ridiculous to rely on a volunteer army in the '80s. Who joins such an army? School dropouts. We should have the draft in Canada.”

Skvorecky was conscripted and spent two years in the army. He hated it but met people he’d never have met otherwise. Rich, poor, clever, stupid — they all started out as privates, wore the same uniform, and performed the same drills. At universities, he says, one meets only the elite. He regards a compulsory stint in the army as a hard but healthy lesson for a young person.

Though Skvorecky uses the language of his adopted country to write plays and articles, he says he will probably always write his novels in Czech and rely on translators to produce the English versions.

“Joseph Conrad wrote in English, though he didn’t start speaking it until he was 21. He complained about the illogicalities of the language and spoke it with a heavy accent but he’d learned it from sailors so he understood the idiom.

“I learned English from schoolbooks and the BBC so, while I may speak it grammatically, I never learned to play with it, to exercise its subtleties.”

Skvorecky writes during the summers or on sabbatical because teaching interferes with his concentration. This year, he’s taking an unpaid leave to work on a novel about Czech composer Antonin Dvorak — focusing on the time he spent in the U.S., trying to convince American composers to stop imitating European models.

“I always write very quickly,” says the novelist, “then re-type what I’ve written, usually a year or so later. By that time, I’ve forgotten my original intention and can be more objective.” ■





*The Blue and White/By Ian Montagnes*

# SILCOX, BUSH AND DIGNITY OF SPIRIT

1908 was a great autumn for Varsity spirit. The Undergraduate Parliament founded a glee club and — to sing at rugby games — a male chorus of several hundred voices. It also introduced a Varsity rug for sale in blue and white. The football team responded by winning the inter-collegiate championship and very nearly took the Dominion title from the heavier, older Hamilton Tigers.

And *The Varsity* proclaimed the need for a new college song. The old one, "Pride of the North," it dismissed as mediocre.

A friend showed that editorial to Clayton Bush, an engineering student who was both president of the glee club and leader of the male chorus. Back in high school, Bush had written a march. It took him little more than an evening to rough out the music for a University song — "The Blue and White".

The words were written by C.E. Silcox of University College. Silcox had never met Bush and wasn't anxious to tackle the job, but finally agreed because he had written the editorial which started it all.

The song had its debut on February 11, 1909. That evening students took over the Royal Alexandra for a touring performance of "The Prisoner of Zenda" and draped the theatre in University and faculty colours. To restrain the more boisterous spirits — especially those in the all-male upper balcony — the glee club performed at intermissions. "The Blue and White," newest item in their repertoire, was a triumph.

The song unfortunately was not arranged for bands in time for the 1909 football season — a magnificent one for the Blues who ended it by trouncing Ottawa Rough Riders 31-7 in the first competition for the new Grey Cup. Still, Bush played an important part in that victory. The chorus he conducted not only sang, it led the Varsity yells. He was the University's first cheerleader.

The chorus had its own 700-seat bleacher in the old Rosedale Athletic Field for the game. There was no trouble filling it. For reserved seats, the line-up began 25 hours before the box office opened. A guaranteed place with the chorus was a powerful inducement to volunteer to sing.

*Clayton Bush, the University's first cheerleader. The chorus he conducted not only sang, it led the Varsity yells.*



The three-part harmony could be heard clear down to Bloor Street, Bush told me years later.

Cheerleading was dignified then. Bush, in bowler and tweed suit, conducted from the sidelines with a long cane. At one point he signalled to chorus members in special seats to remove their blue jackets. The white sweaters thus exposed spelled TORONTO.

Twenty-five years after he wrote the music, Bush returned to the campus to conduct it again at a University Band concert in Convocation Hall. Silcox was there too, one of the few times the two men met after their collaboration.

C.E. Silcox entered the ministry after graduation and devoted his life to religious liberty, as general secretary of the Social Service Council of Canada and later as director of the Canadian Conference

of Christians and Jews. Clayton Bush became one of the first divisional engineers of the Ontario Department of Highways; then he moved to the Ontario Hydro-Electric Power Commission where he built a reputation as a tough bushman and deadly accurate surveyor.

But after "The Blue and White" he never wrote another song.

Varsity, much like Canada, lucked into its anthem. Fortunately, no one is suggesting that the University adopt its song officially.

If that ever happened there would surely be a move, as in Ottawa, to (unhappy cant phrase) degenderize it. And, somehow, "All us kids thy very name revere" wouldn't have the punch of the original second line. Even if "All thy sons" does go back to the days of bowlers and canes, and football games as popular as today's rock concerts. ■





Banting Best

**W**hen Ray Woodhams built a better plastic a decade ago, he knew he was on to something big. This year, the mica-reinforced plastic he pioneered represents major earnings for the 70 U.S. firms that are producing it. But not one of them beat a path to the inventor's door at the University of Toronto.

Woodhams isn't the only researcher who feels badly burned by foreign businesses willing to pirate ideas, spend money erecting plants and buying natural resources, then exploiting a new technology for all it's worth, confident a university professor doesn't have the time, money or business clout to fight back. His story is just one variation on a theme: researchers face profound difficulties moving their ideas from the laboratory to the marketplace; they patent discoveries, publish in journals, then pray the right buyer will turn up. They are naive about business, poor salesmen and apprehensive in the face of corporate giants. Inspiration and perspiration are clearly not enough: "Inventions are exploited the hard way and, generally speaking, not by the inventor, who doesn't have more than one or two of the 10 skills required to launch something," reflects dean of applied science and engineering Gordon Slemon. "And industry never comes running up and says 'here's a million dollars to develop your invention'. That's a myth."

The U of T has an office of research administration that tends to the sticky business of patenting and licensing, and it's had some success putting inventors in touch with business. But there's been no matchmaker courting industry. Now, the University has decided to meet business on its own turf. The Innovations Foundation, set up earlier this year, is necessity's child, an agency created solely to sell U of T research to the world of business.

Woodhams' mica-reinforced plastic provides a good instance of an opportunity that slipped past for want of the aggressive marketing support the Innovations Foundation should provide. The chemical engineer followed the book, made the right moves, but still wound up with nothing.

It had long been known that mica, like many materials, could be used as a cheap, relatively inferior strengthening

agent in plastics. Woodhams demonstrated how to grind and plastify mica flakes at a higher ratio between diameter and thickness in order to transform it into an outstanding reinforcing substance, one that could rival even glass. His "high-aspect-ratio" mica was more than twice as rigid as glass fibres, provided comparable strength and, because it occurs naturally, doesn't require much energy to recover. And it seemed a perfect industry for mica-rich Canada.

The scientist published his research, patented his idea in 10 countries, and wrote to senior federal officials begging for support to strengthen his patent position and pay for the development of what he said would one day be a billion dollar industry. He was told to stick to standard research channels. ("You know the attitude — just another crackpot. They didn't understand.") The first company he licensed was Fibreglas Canada, which received a \$750,000 development grant but downed tools after three years when it decided glass fibre was still best for its needs and that, in any case, it would be difficult to corner the market on a mineral as plentiful as mica. His second stop was Eco Plastics Ltd., which still plans to produce mica-reinforced plastic, but has been delayed by concern about the Fibreglas licence and the number of U.S. firms that have moved in without permission. A Japanese firm called Kuraray Ltd. then came to him, received a licence, built a plant, and has taken out about 50 patents. He has been told they have introduced a number of new products to the market in the past year. But he still awaits his first royalty cheque.

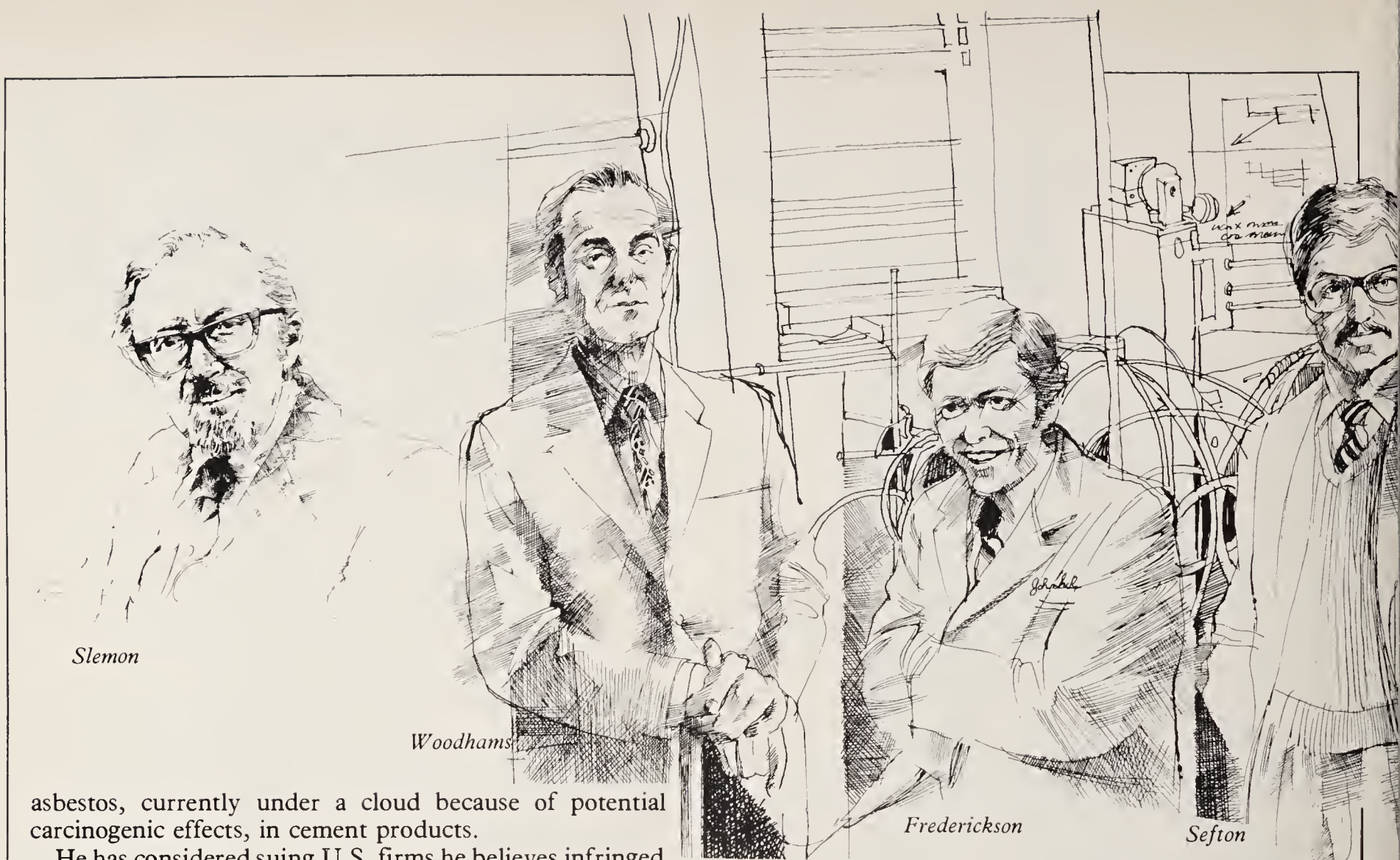
Not long after Woodhams published his research, U.S. firms began producing plastics reinforced by mica, following Woodhams' specifications and his "high-aspect-ratio" terminology, suggesting to him the timing was no coincidence. Today, it is widely used in automobile and boat construction, bathroom modules and virtually anywhere extreme strength is needed. An automotive official has told Woodhams he believes it may one day replace steel in car parts. In Japan, the industry is using a layer of mica-filled plastic to coat the undercarriage of cars, to absorb sound and vibration. In the future, synthetic paper and new packaging materials will be made of high density polyethylene filled with mica. High-aspect-ratio mica could even replace

# NECESSITY'S CHILD

*Marketing inventions and ideas takes more than brilliance. Our Innovations Foundation sets up shop*

**By Sarah Henry**





Slemon

Woodhams

Frederickson

Sefton

asbestos, currently under a cloud because of potential carcinogenic effects, in cement products.

He has considered suing U.S. firms he believes infringed on his patent. But the daunting prospect of moving into "unfamiliar territory with a lack of experience" combined with the \$1 million and five to 10 years it would take, have discouraged him. Plastics using mica have come a long way since his breakthrough a decade ago. There's no certainty he could win.

Instead, everyone loses. Woodhams hasn't earned a dollar from his discovery. Nor has the U of T, where he conducted his research. And neither has the Canadian manufacturing industry, which needs such high technology innovations to increase employment and decrease trade deficits: "The government must ensure Canadian-owned plants are built so we can exploit new discoveries. We repeat our mistakes over and over while the Japanese and Americans run rings around us," says the disillusioned engineer.

Slemon and other University researchers began pushing for an agency like the Innovations Foundation around the same time Woodhams' troubles began. But the University moved slowly: "Our reticence reflects the very problem the Innovations Foundation is intended to counter," says U of T's President James Ham. "There's been a certain disinterest at an institutional level to deal with the practical issue of using creative ideas that are capable of being commercialized." There is, after all, an economic symbiosis between the health of a country's industrial sector and its publicly-funded universities, he points out. And there's no danger that introducing a profit motive will steer scientists away from essential projects. Slemon, the Innovation Foundation's first chairman of the board of directors, agrees: "I really can't see a danger of research on demand."

Several U.S. universities — Stanford, Wisconsin, Carnegie-Mellon and M.I.T. — have set up in-house operations to handle research and development functions. Most don't even break even. But the Innovations Foundation has the edge in two respects: it has been set up only to sell, and it isn't run by academics or hampered by the

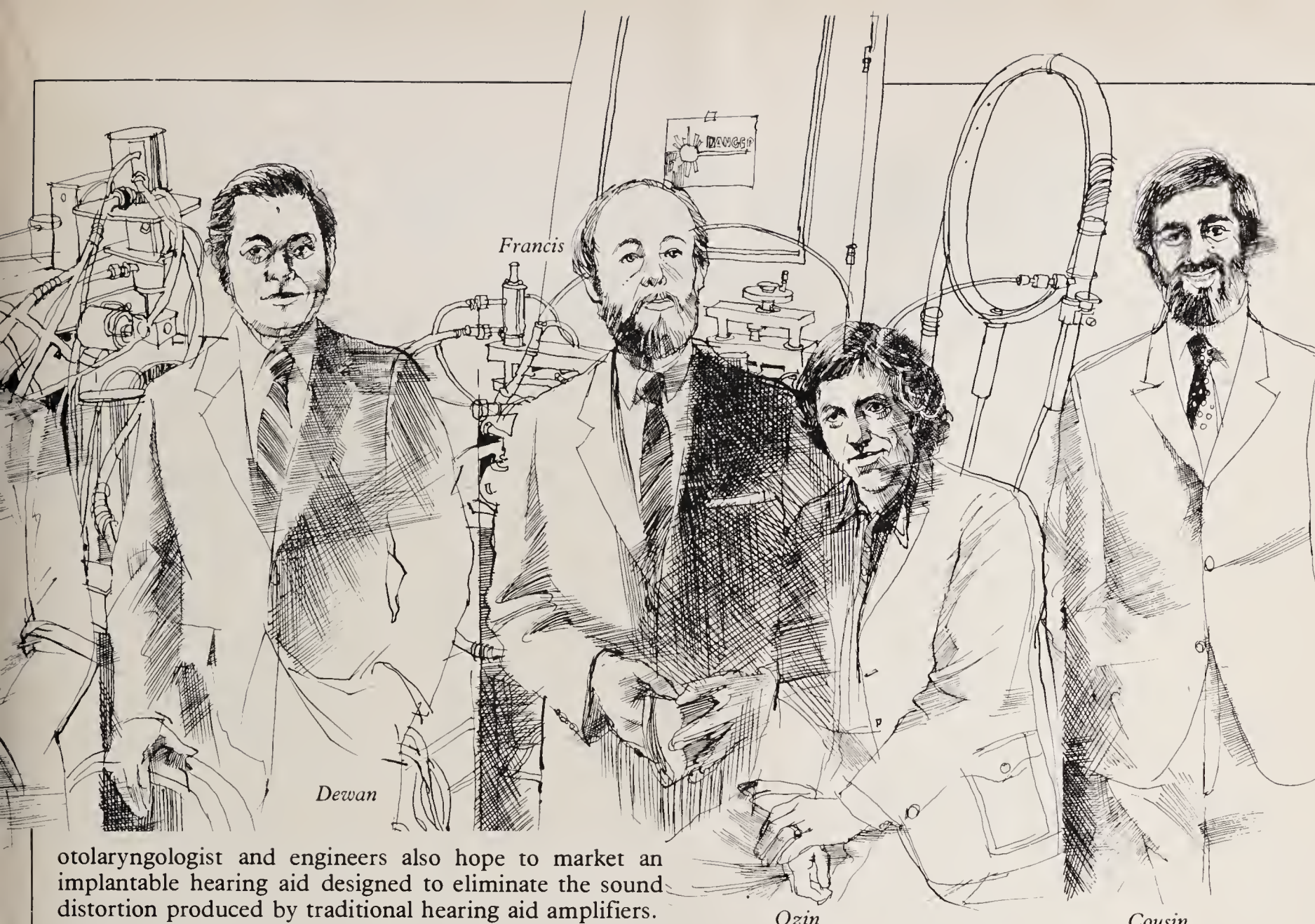
bureaucratic constraints of most university departments. "We were concerned about the image. If industry feels that academics aren't very practical at business, that wouldn't be a good way to start," says Slemon. The eight-member board includes men more familiar with boardrooms than classrooms. And Geoffrey Adamson, who set up shop as executive director on the outskirts of the St. George campus in January, is fluent in the language of high technology. He has been in the business for 27 years, in senior positions with Canadian General Electric and Westinghouse Canada Limited, as president of Plessey Canada and as head of his own management consulting firm.

Adamson keeps tabs on research developments through the University's inventions committee, assesses the money-making potential of new ideas, then seeks out companies, preferably Canadian ones, to exploit the invention. He will see that agreements are honoured and that companies take full advantage of their licences — and earn maximum returns for themselves, the University and the researchers. After overhead is paid, the University and inventor split the licensing and royalty income evenly up to \$100,000, then the researcher's share is cut to 20 percent of earnings, in keeping with long-standing inventions policy.

With a research budget of some \$40 million a year and a pool of 2,000 senior faculty and 6,000 post-graduate students, the U of T is easily the largest inventions arena in Canada. Each year, about 20 marketable ideas are expected to find their way into Adamson's portfolio.

He is confident of selling an implantable voice box in the advanced stages of development by medical researcher Dr. John Frederickson and engineers at the Biomedical Instrumentation Development Unit, a government-funded body whose work is aimed at strengthening the Canadian medical devices industry. Patients who have had their larynx removed now rely on a hand-held device that enables them to produce speech. The new voice box will be enclosed in the neck and produces a more natural voice quality. The





otolaryngologist and engineers also hope to market an implantable hearing aid designed to eliminate the sound distortion produced by traditional hearing aid amplifiers.

The foundation is also selling an advancement in equipment used for monitoring the heartbeat of infants before birth. Doctors listening through an ultrasonic device on the mother's abdomen have difficulty keeping track of the constantly shifting fetus. Electrical engineer Alan Cousin has produced a device that features arrows that light up to indicate to physicians which way to move the equipment to get a better heartbeat signal.

And there's an improved ballast, the part of a fluorescent lamp or street light that limits to a desired level the amount of current moving across the enclosed electrodes. Electrical engineer Shashi Dewan's high frequency ballast will allow more of the power to be converted into light, an advance that will result in energy savings of about 25 percent.

It is also selling a device that will monitor workers who may be exposed to toxic gases on the job. The small dosimeter, worn on the clothing, contains chemicals that immediately change colour in the presence of poisons in the air. Chemical engineer Michael Sefton's innovation will cost about \$5, a substantial saving both in time and money over the activated charcoal badges now worn in industry which cost \$30 and don't provide a chemical analysis for several days.

Synthetic chemists Geoffrey Ozin and Colin Francis had to build a machine to let them get on with what they really wanted to do — produce new structures of metal atoms at room temperature, something that previously could only be accomplished with laboratory freezing apparatus. They believe their new chains of atoms will exhibit catalytic properties which, because they are held in liquid form, can be used by investigators to transform other chemicals into valuable end products for, among others, the petrochemical and pharmaceutical industries. In the meantime, the Innovations Foundation hopes to sell their vapour reactor

system to an equipment manufacturer who will have a ready market in companies involved in exploratory research and production.

The University's most famous innovation was the work by Frederick Banting and Charles Best on insulin almost 60 years ago. Following its discovery, Best directed its production at the University's Connaught Laboratories. The fund that was set up to support research following the sale of the laboratories eight years ago is now taking its first step promoting the development of research beyond the laboratory. It will provide \$50,000 annually during the Innovation Foundation's first five years; a matching sum will come from private donations.

But even after, it will be a decade or so before the foundation is expected to turn a first profit. The University's share of royalties will probably be turned back to the department that sparked the research. "We will likely have a number of small winners, ones where we find \$10,000 here and there. We expect to have many good inventions that have a very narrow market. It's the sum total that will be the important thing," says Slemon.

It may even right past wrongs. Woodhams, with Adamson's guidance, is making another foray into the marketplace. But this time, the formula may be right for success. The foundation is trying to set up a collaborative network of mining companies and manufacturing firms involved in the plastics industry, among them Eco Plastics, to develop new applications for mica flakes in ejection molded plastics, extruded materials, durable paints, synthetic paper and packaging materials. The possibilities seem virtually endless.

Ray Woodhams may yet earn that first dollar. ■



# CONDESCENSION FROM OTTAWA

William Franklin's letter in the May/June issue indicates that the federal government's employment operation hasn't shown much improvement over the years. I was reminded of my own experience just over 30 years ago when I was finishing my MBA at the University of Pennsylvania and wrote what was then misnamed, I believe, the National Employment Service, stating that I was a Canadian who wished to return to Canada and attaching the relevant information about myself and the type of work I was interested in.

The reply was prompt but blunt—they did not deal with people outside the country. I could get in touch with them when I returned to Canada. This was at a time when a major subject of discussion in Canada was what was then called the "brain drain" to the U.S. It wasn't clear from Mr. Franklin's letter whether Canada Manpower now condescends to deal with Canadians abroad.

*Edward D. Maher  
Fredericton*

Perusing the latest number, May/June, I got a surprise, and a "large charge" as my grandchildren say, by seeing in Ian Montagnes' article that Mary Bald was one of three first female graduates in 8T5.

Miss Bald taught me Latin for four years at Brooklyn Heights Seminary "for young ladies". We knew she was Canadian and a graduate of U of T but she didn't mention the first co-educational class.

She persuaded my mother and the school principal that I was "university material". I went to Smith, class of '22, for two years. My presence then being required at home I "quituated", then married and came to live in Toronto in 1921.

I had long had a wish to finish my degree and after my children were grown, Dr. Dunlop of the pass course for teachers told me I could get credit for the Smith bit and take a course or two each year until I finished.

So this I did and graduated with my daughter's class in 4T8. It was a happy and busy time as I was deep in community work and we entertained

boys from the Fleet Air Arm for their weekend "48"s.

It was Mary Bald who made me realize what an honour was a degree from the University of Toronto!

*Catherine Canfield Wilson  
Toronto*

Your editorial on "Understanding Media" was a good effort in trying to cool the emotional debate about Marshall McLuhan and the Centre for Culture and Technology.

I do wish that you (and the other media) had examined the "tragic flaw" in the whole episode: that the centre had become so identified with one person that there was no way for it to carry on once the original animating force was incapacitated. Instead of ensuring that the centre could function by itself as a centre for communications, it now appears to be, lamentably, merely the result of one man's ego without the building of the kind of continuity that could have ensured its continuance and its contribution to both research and teaching.

*Margaret Gayfer  
Toronto*

I enjoy *The Graduate* and am always interested in its news. Being a graduate in 1923, already an experienced teacher for 11 years, I did enjoy the lectures and my association with the University.

*Bessie Hurdle  
Strathroy*

The announcement on page 29, Jan./Feb. issue, of new scholarships for non-Canadians to do graduate work at U of T, moved me to sit down at the typewriter.

I feel that Canada should help to educate those less fortunate and I am genuinely pleased to hear about these scholarships and hope there will be more. However, I would like to draw attention to the fact that Canada is not particularly good at helping to educate some of its own professionals. I didn't realize how acute the situation was until I met several students at Harvard and MIT who are being

supported by the Canadian government.

I am a landscape architect, trained at U of T. My annual undergraduate fees ranged from \$600 to \$800 and the Canadian and Ontario governments loaned and gave me a total of approximately \$2,700 per annum. I usually finished in early April which gave close to five months to gain experience and earn enough money to return in September.

I wanted to teach at a university level and therefore needed a master's degree. Canada did not have a master's program in landscape architecture when I applied to Harvard. The University of Guelph started one last year but it will take several years for it to be a broad-ranging program.

In order to study in the U.S., the American immigration department requires proof that you have \$10,000 U.S. minimum per annum. The scholarship and other money that is available is either for Americans who wish to study abroad or for students from third world countries. Canada is considered a wealthy country and therefore we are excluded.

When my school fees were low and I had a long summer to earn money, the government gave me close to \$3,000. My fees at Harvard are more than \$6,000 U.S., my summers exactly two months long, and the maximum loan available from the Canadian government \$1,800 (approximately \$1,400 U.S.).

I graduate this June and while I have accumulated debts I would not have traded the experience for anything and am grateful for the opportunity to study at Harvard. I have received several letters from universities in Canada asking if I would be interested in teaching.

I taught at Harvard last summer which made me aware of the difficulty of conveying information to a large group without a formal text. For the past two years I have been working

Letters may be edited to fit available space and should be addressed: Graduate Letters, Department of Information Services, University of Toronto, Toronto, M5S 1A1.



on a book about the history and development of landscape architecture in Canada. There is no such book at present. The standard text for Canadian students is Norman Newton's *Design on the Land* which has about two sentences referring to Canada. Professor Newton, 80 years young and one of my liveliest advisers at Harvard, says he is thrilled that I am working on Canada because he had enough trouble covering all of Europe and the United States!

I wrote a proposal requesting funding but was told that a Canadian had never won and there was little likelihood one would because "Canada is a wealthy country and it simply wouldn't be fair". The professional society in Canada does not have funds, and as a foreigner I am not eligible for the American professional society's funding. I shall continue to write and do research on my own time but unfortunately the book will take a long time to complete.

One half of my class comes from foreign countries and that is precisely what has made my time here so interesting. These people have made me more aware of my own country than my fellow Canadians ever could so I am pleased Canadian students will have the opportunity to study with foreign students. However, I also feel that some consideration

must be given to Canadian students to allow them to study outside Canada, especially when that education is not available in Canada.

Sheila Murray  
Department of Landscape Architecture  
Graduate School of Design  
Harvard University

Herewith my voluntary subscription to a periodical now brighter and more interesting than ever.

Regarding the correspondence about soft drink bottles, I cannot understand —

(1) Why only soft drink containers are mentioned, surely alcoholic drinks, foods, sauces, chemicals, pharmaceuticals also come in glass containers which are equally likely to cause injury on breakage.

(2) Why only breakage by tipping is considered, surely breakage by dropping to the floor is more frequent.

One obvious suggestion is to make bottles barrel-shaped, i.e. everywhere double-convex. Such bottles on being tipped over will roll without impact. Another, which may be wide of the mark since I am not a glass technologist, is to use safety glass as used in windshields, broken fragments of which do not cause injury.

G.S. Light  
Nogaro, France

I cannot resist this little comment on the poetry review in the May/June *Graduate*.

*Avant-garde, things of past have slain,  
Modern poetry wanders across the page  
No rhyme, meter, reason, abstract  
Like the music of recent age  
Dissident, to the ear transient,  
Meanings vague, patterns lost  
Unstructured, unclear, yet praised  
For its eclectic quality, new theme;  
Tho words or chords disconnected  
Draw no visual image, have no scheme,  
Neither stir, nor move to bring man  
Nearer, enfolded in beauty's dream,  
Chords strident, or words dead, dormant,  
The old Bard's art lost in dust  
Lest by repetition, overworked  
Art forms fall prey to printout;  
Oh, may time's pendulum reverse its swing  
To record phrases marked, patterned, distinct,  
Emotions, songs, scenes, skillfully etched  
Not too abstract, or cast in stellar space,  
But to touch the heart, its depths to stir  
The e'er searching soul of the human race.*

mew 16/6/80

It's great to be on the down side of the middle years of life. If we're abstract, oblique, obtuse, vague, it's senility! We don't have to fight for a new art form and can safely praise the old.

M.E. Toole Wood  
Campbell, California

If you're going to publish poetry in *The Graduate*, you might at least

I read *The Graduate* hoping to see a remembered name. Not one. But I am a graduate of 1914, now 83 years old, so that is not surprising. I was able to attend some reunions occasionally. I remember well one when the graduates of 1913 gave their class yell and I shuddered lest 1914 do the same.

I took some courses at Columbia, one of the courses being in history. The professor asked me whether the women had to take the same course as the men in the University of Toronto. He treated me with added respect.

I taught school in Manitoba from 1914 to 1952 when the school board followed its usual practice of replacing us when we reached 60 years of age. The men were allowed another five years. In 1954 I was invited to teach at the teachers' college and was there until 1975. By that time I had gathered a few degrees . . . B.Ed. (Man.), M.Ed. (Man.) and finally LL.D. *honoris causa*.

My chief loyalty to University College remains with me. I remember so well Professor Alexander, Dr. Malcolm Wallace,

Professor Wrong and his staff. I remember without bitterness the comment on my first essay. It was on Magna Carta and the young man from Professor Wrong's staff wrote "style immature".

I assumed he was correct and gave up temporarily my hopes of being a writer. However, the publishers' scouts kept on wining and dining me at our best hotel. Up to that time most of the school history texts were written by history professors. They always seemed to take it for granted that the pupils already had some knowledge of history and also they used a vocabulary above that of the twelve-year-old. Pupils mostly disliked Canadian history. John Gray of Macmillans persuaded me to rewrite a text by Dr. W.S. Wallace who graduated from Toronto a few years before I did.

Although in those days Canadian history was not on the course for English and history moderns, we certainly acquired an understanding of what could be done. I am very grateful to University College.

Aileen Garland  
Winnipeg



MARY AILEEN GARLAND

*Even though vanquished, she could argue still.*

AILEEN GARLAND attended High School in the beautiful mountain town of Kaslo B.C. but now claims Winnipeg as her home. She entered University College as a Sophomore in English and History regardless of discouragement, and has succeeded in winning Honours throughout her course. She is renowned for her splendid conversational abilities and wonderful powers of argumentation. We predict that she will be one of the first women members of the Manitoba Legislature.

TORONTONENSIS, 1914



publish good poetry. Findley's selection in the May/June issue strikes me as the most blatant piece of coterie publishing I've ever seen, under the guise of promoting U of T's talent. Why, some of the "poets" selected have never even been students at the U of T!

Better luck on an informed policy for publishing poetry.

Robert Pitchford  
Toronto

I am happy to enclose a cheque for \$10 for *The Graduate* which is always interesting and thought-provoking. The present format is also pleasing.

Timothy Findley's contribution in the May/June issue, with the inclusion of student poetry, was much appreciated and I agree that an annual recognition of the student poets would be a good idea.

There is much to praise in each issue.

Marion Smith  
Windsor

Since graduating from Toronto in 1961 I have enjoyed receiving and reading my copies of *The Graduate* and have frequently been meaning to write and express my gratitude to you and your staff. Finally I have got around to doing it.

It is refreshing and thoroughly pleasurable to "keep in touch" and from time to time be nostalgic when reading articles. My congratulations for a first class magazine.

Edward Samples  
Pontland, Northumberland

I most enjoyed reading your Sept./Oct. 1979 issue, especially "Taddle Tale" by Ian Montagnes, which gives a fine example of covering up pollution, even then — one about which I can talk to my classes. The "toddling" merry creek has become the city sewer! This has certainly happened in many other human conglomerations in the world all through history but never so cleverly hidden or so well told.

After I left Toronto in 1966 my address changed several times but *The Graduate* has followed me efficiently in spite of postal strikes and so on. May I thank you for it and request your office to be kind enough to note my present address which is indicated above.

Methil Narayanan Kutty  
Dean, Faculty of Fishery Science  
Tamil Nadu Agricultural University  
Tuticorin, India

## Alumni Talent Unlimited: The rocking chair can wait

Robert Saunders graduated from the U of T almost half a century ago. Today, the retired chartered accountant is, among other things, acquainting new students with the mysteries of the Robarts Research Library.

Mary Carter was a classics teacher after she graduated in 1933. Now she heads a group of about 30 retired alumni who conduct visitors on walking tours of the downtown campus. Both she and her husband Hiles, a former science teacher, have been active guides since the alumni tours group began work three years ago.

They are among dozens of retired graduates who have signed up with Alumni Talent Unlimited, since it began four years ago, to help out the University any way they could. Members believe their group is the only one of its kind at Canadian universities.

The Department of Alumni Affairs has estimated that ATU man-hours have saved the University more than \$15,000, and, says Margaret O'Neill, co-chairman of the group, "every one of our volunteer efforts has enriched the University by supplying a lack or improving an existing service. In no case have we deprived a student or a worker of a paying job."

ATU is a subcommittee of the U of T Senior Alumni group, people who graduated in the '20s, '30s and '40s, who are either long or recently retired from their jobs. None wanted to sit around collecting dust. All wanted to strengthen their connection with the University.

But starting a new business — even a free service — wasn't easy. The small core group contacted the colleges, faculties and departments around U of T, explaining they were starting ATU and needed clients. "We received a polite hearing (usually), were complimented on our fervour (always), and assured there was really nothing seniors could do just at that time," the co-chairman recalls.

They finally got a break when the International Student Centre needed help with its English-as-a-Second-Language classes and writing lab. Three retired school teachers stepped in. Then U of T archivist David Rudkin asked if the organization would monitor the Toronto newspapers for articles concerning the University. "We had been doing it ourselves but it was too much to handle. But they were successful to a fault," Rudkin says. "We got snowed under with clippings. They gave us so much we didn't have the staff to file it all." This energy, he decided, could be better spent indexing *The Varsity* from 1907 to 1953, a massive cataloguing project the University staff had no time to tackle. Two teams of about eight alumni volunteers still come in every Tuesday and Thursday — and will probably continue to do so for the next couple of years. And an added bonus: members have been able to identify archives' photographs from their recollections of university days. They also dipped into the files to put together the photo display for Spring Reunion.

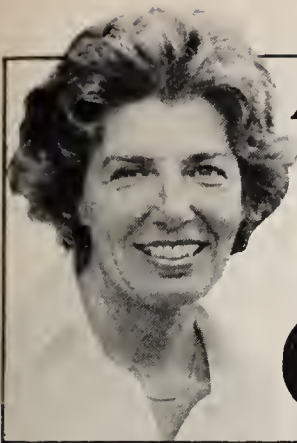
A former advertising executive helped edit and design some of the instructional pamphlets at the Robarts Library. A retired school principal audited and assessed the orientation program and materials given to new students. The Laidlaw Library at University College, which had been closed because of insufficient funding, is again providing a good service because the staff librarian can count on back-up help from two alumni librarians.

The list goes on. ATU has sent volunteers to help out at Homecoming, Orientation Week and Preview Week, has provided guides and resource people for special interest groups visiting the campus, and because its members are well qualified to act as campus guides, has allowed the U of T to extend its tour season beyond the three months the budget permits. ATU's presence has also provided sufficient manpower — 55 volunteers — to check out 200,000 alumni records against computer print-outs.

Most important, the Alumni Talent Unlimited-University of Toronto connection is mutually rewarding. Says tours chairman Mary Carter: "People who have just come out of jobs have so much energy, time and expertise just waiting to be tapped. And our work here is not at all burdensome. We are doing it because we enjoy it. And because we want to help."

If you want to help, telephone Margaret O'Neill at 223-7973.





*Alumniana/By Joanne Strong*

# NEW FACES AND OLD FRIENDS

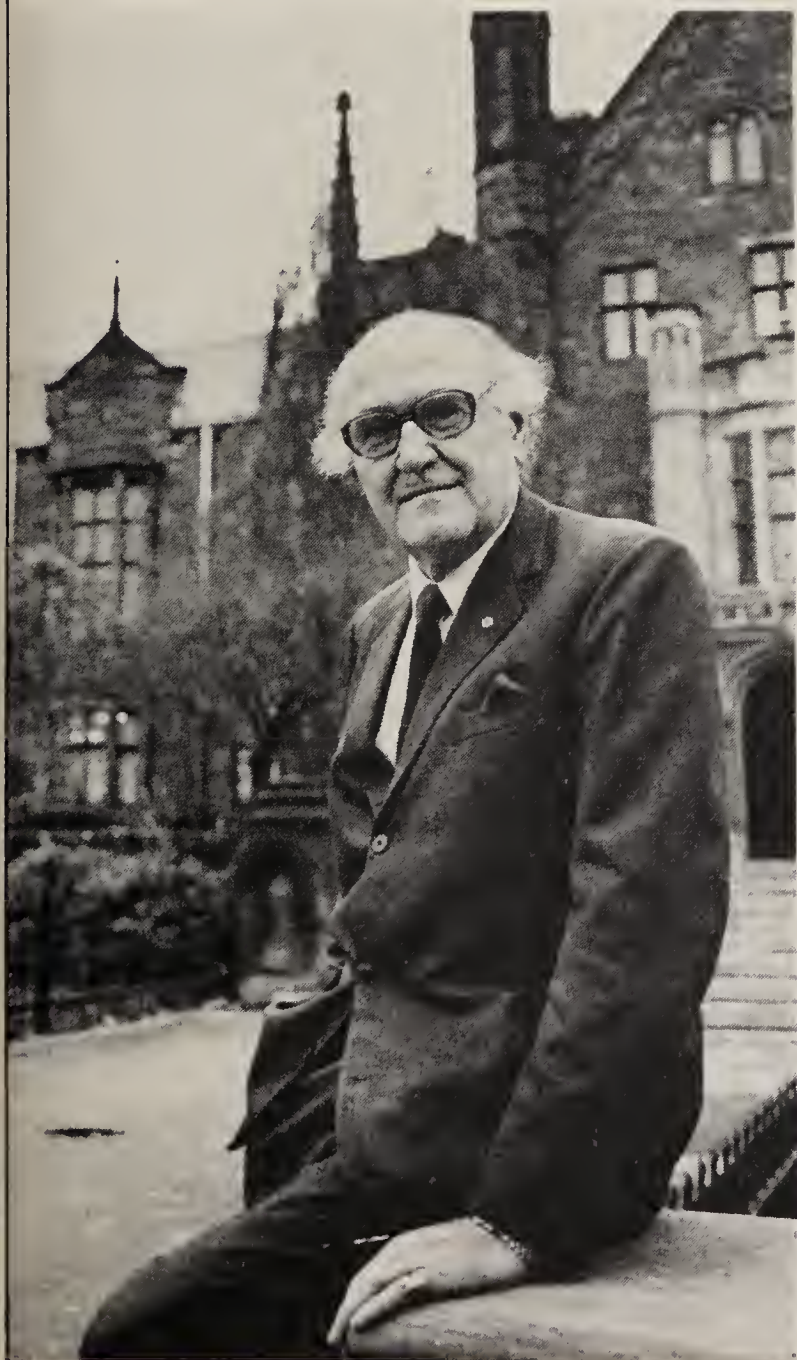
In one of those cases where it is moot who is honouring whom, a distinguished Canadian, George Ignatieff, succeeds A.B.B. Moore as Chancellor of the University. The former Provost of Trinity College thus caps a 48-year association with U of T which began when he enrolled as an undergraduate shortly after coming to Canada as an *émigré* from Russia in 1928. He became a Canadian citizen in 1935 just before graduating from Trinity with an Ontario Rhodes scholarship. Dr. Ignatieff went on to a brilliant 33-year career in Canada's foreign service. He was Canadian ambassador to Yugoslavia in 1956 and assistant undersecretary of state in 1960. But it was in successive international appointments from 1963 to 1972 that

he made his mark in international affairs. He was, in turn, Canada's permanent representative to NATO, to the UN including the Security Council, to the Disarmament Committee in Geneva and to GATT (General Agreement on Tariffs and Trade). Dr. Ignatieff is a Companion of the Order of Canada, holds the Centennial Medal, the Jubilee Medal and eight honorary degrees from Canadian universities, a measure of the esteem in which he is held in the academic world. As ceremonial head of the University, he brings great honour to his new office. He will be installed as 27th Chancellor, for a three-year term, at fall Convocation November 26.

Marnie Paikin finished her four-year term as Governing Council chairman in a flurry of affection and appreciation for her dedication and skill in the job. At a dinner in her honour following the last meeting of Governing Council in June, President Ham, on behalf of the University, gave her a choice of artists to paint her choice of a scene of the University. As well, 200 trees will be planted on her behalf in the Marnie Paikin garden in Israel.

June reunion was historic. It rained. Something that happens about once every 25 years. Fortunately, late in the afternoon and if it dampened a few hairdos, it didn't dampen the spirits. Some of the well-known at the major receptions and dinners included: author and psychiatrist Dr. Allan Walters 3T0, Judge Robert Walmsley and drama critic Ronald Bryden 5T0, at Trinity; at St. Michael's, Mr. Justice Arthur Kelly and Professor Ruth Agnew 2T0, and Rio Algom vice-president James Kavanagh 4T0. Horticulturist Lois E. Wilson 3T0 was at Vic, and at U.C., there were Mr. and Mrs. Paul Pehlan 4T0, W.C. Harris 2T5, a couple of Hons—the Hon. Donald Fleming and the Hon. John Roberts, as well as many, many other happy celebrators . . . at the Engineers' Reunion Ball, a special event was the presentation of citations to 10 engineers elected to the Hall of Distinction for 1980. Among them were three pioneers in the field of aeronautics: the late J.A.D. McCurdy 0T7, who with Bell and Baldwin designed, built and flew the first manned aircraft in the British Empire, the Silver Dart, in 1909; J.H. Parkin 1T2, who established Canada's first undergraduate program in aeronautics and the first academic windtunnel; and Elsie Gregory MacGill 2T7, the first woman to graduate in electrical engineering at Toronto, the first woman to earn a master's in aeronautical engineering and the engineer responsible for two WWII fighter planes—the Hawker Hurricane and the Curtis-Wright Hell-diver. Others elected were the late W.P. Dobson 1T0, J.G.G. Frost 1T4, R.G.K. Morrison 2T3, C.D.

We also have a new chairman of Governing Council. Terence A. Wardrop, Q.C. succeeded Marnie Paikin, July 1. He has been a government appointee on Council since 1978. Our new chairman is a Trinity 5T1 alumnus, a former Blues hockey player, lawyer and music lover. He is also general counsel for Atomic Energy of Canada Ltd., and was active for over 20 years in the performing arts as a director and then president of the board of the Toronto Symphony, chairman of Coordinated Arts Services and vice-chairman of the Association of Canadian Orchestras . . . Because you asked, Governing Council governs the University as distinct from the President and his officers who administer it. Every major University policy must go through Council for approval from the representatives of students, staff, faculty, alumni and Ontario citizens (government appointees). Two new alumni governors took office this spring: past president of the UTAA, Douglas C. Appleton, and Burnett M. Thall, senior vice-president of Torstar Ltd. and a dedicated alumni volunteer. Joyce Forster was re-elected for another three-year term. The government appointed four new governors: F. Gerald Townsend of Mississauga, John A. Whitten of Oakville who represented the alumni for several years, and Dr. Noble Hori and Margaret A. Meynell of Toronto.





Carruthers 2T7, R.W. Emery 3T2, C.A. Sankey 2T7 and the late J.W. Powlesland 3T5. All seven surviving engineers of distinction came to the dinner to receive their citations.

The first Alumni College—Soundings: Canada in the '80s—had that special ambience which even the most practised organizers (and they are by no means slouches at U of T) can only hope for. The participants, all alumni, from across Canada and the U.S. had invested time and money on this return to campus and they were determined to have a good time. Their enthusiasm and congeniality produced that indefinable sparkle that lifts an event out of the ordinary. Plaudits to everyone involved but especially to: Vice-Provost Bill Saywell, clever and witty; chanteuse Isabel Jory, the hit of the musical evening; the PLS, medieval players, hilariously doing three 16th century comedies; Professors Stefan Dupré, Dennis Duffy and Lorna Marsden and Dean Gordon Slemon at their brilliant best in the lecture sessions; and to alumni Geraldine Ellis, Mary Flaherty, both from Calgary, and Helga Malloy from Halifax, because they came the furthest. This success ensures the continuation of the alumni college idea.

An exciting UTAA fundraising scheme, the U of T watch program, will shortly burst upon the alumni world. Three different watches made up in limited edition will be offered exclusively to U of T alumni. They are Bulova Accutron Quartz—a wristwatch, man's pocket watch and lady's pendant watch, all done in gold plate with gold University crest on gold face. Watch for the mailing on this, as they are absolutely stunning.

Over at U.C. they are fired up to fund raise for the restoration of the historic JCR (Junior Common Room), the campaign to be under the leadership of Toronto lawyer John B. Hamilton Q.C. When he calls the JCR historic, he means it . . . under the panels of Lit members for 1891-97, for instance, there are the pencilled signatures of the returning student veterans of the 1885 expedition to put down the Riel uprising. Built in 1859 as the main University dining room, the JCR wing was turned over to the U.C. students in 1925 when Hart House opened and for the occasion J.E.H. Macdonald did some special paintings, two of which still hang there.

Two big alumni book sales will again be held on campus this fall. U.C. will hold theirs November 6

## American graduates: the convenient assumption that government pays

Graduates of U.S. colleges have a long tradition of actively supporting their schools. American graduates of Canadian universities have a long history of assuming government will provide the necessary support.

Many don't realize that the public purse snapped shut years ago, and the U of T now needs the money just as much as any large university in the States. "We're ivy league too. And we need the money too. But a big push is necessary," says Lee MacLaren, director of the University's Department of Private Funding.

The first evidence of that big push was a smart new U of T brochure sent late this spring to all graduates living in the U.S., exploring the rationale for higher education and the need for alumni participation to ensure high quality education.

The second step has been the formation of a New York pilot project that just may be the shot in the arm required to improve alumni support from the U.S.

The Associates of the University of Toronto, Inc., for most alumni living in the States, is primarily a post office box at Grand Central Station and an annual form letter in the mail. It was formed in 1947 to enable U of T alumni living in the U.S. to make tax deductible gifts to their old school. It has had a modest mandate that, in most years, has yielded modest results.

Now, a group of seven alumni living in New York has decided that the Canadian wait-and-see approach may be all wrong for its constituency. The pilot project is aimed at fund-raising American-style. Personal letters will be written, phone calls placed, perhaps even small get-togethers with other alumni members arranged. There are about 850 U of T alumni living in the greater Manhattan area. The group hopes some of these alumni will respond to a more personal communication than they have had in the past.

"Our annual giving performance isn't satisfactory," concedes William Palm, president of the Associates and a member of the new group. "The Ontario government is treating the University frightfully in terms of budgets and operating costs."

Palm, retired executive vice-president of Westvaco Corporation, found others who agreed with this two-part assessment. They include George A. Delhomme, Jr., president of the New York alumni association and manager of editorial services at International Telephone and Telegraph Corporation; Gary Ball, president, Dominion Securities Inc.; ophthalmologist Dr. Jack Dodick, surgeon director of the Manhattan Eye, Ear and Throat Hospital; Sherrie Murphy, director of promotions, publicity and advertising for Rizzoli Publishing Co.; David A. McCart, senior vice-president, Midland Doherty Inc.; and Ted Patte, vice-president, product management, groundwood papers division, Abitibi-Price Sales Corporation.

The group recalled that past fund-raising drives, like the one that established the Claude Bissell Chair in Canadian-American Relations eight years ago, had done a lot to stimulate increased contributions. Then it took a hard look at the current contributions picture. It showed that last year, the 10,200 U of T graduates living in the U.S. (of whom addresses for only 7,000 are known) gave \$39,496, plus two special donations of \$20,000 and \$4,692, and a bequest for \$10,000. It was an improvement over the previous year but still badly trailing U.S. colleges and McGill University which has carried on an ambitious program in the States for many years.

It was decided that a fundamental change in the Associates' approach was needed. The results of this New York project will determine whether the group is right in believing better communication is an answer. Palm figures an experimental approach is the best strategy for now: "We don't want to set our laboratory up throughout the country. First, let's see if it's successful. Then we can go about setting up committees representing various professional groups and U of T colleges in other areas."

S.H.



and 7. Helen Bradfield will again chair the Friends of the Library Trinity College sale, October 23 and 24. So box up your discards and contribute them to the cause. For information and pick up call the U.C. alumni office at 978-8746 or Trinity convocation at 978-2651, depending where your heart lies. Last year, a first edition of *Origin of Species* and two T.S. Eliot firsts were among the book bargains, so you might also plan to go . . . The Faculty of Dentistry will hold an all-day alumni meeting on October 27 when Dr. William K. Solberg, University of California at Los Angeles, will be guest speaker. It's free to all DDS and specialty graduates, with lunch included . . . P and OT alumni will bring their most fledgling members, the '80 graduates, in out of the cold, at least for an evening, when they host them at a six month reunion party in October . . . Anne Marie Applin and Hans van Monsjou of the Erindale alumni were among organizers for the Mississauga Citizen of the Year dinner which was co-sponsored by the Erindale alumni. Over 900 attended, including VIPs Pauline McGibbon, Ontario Attorney-General Roy McMurtry, Mississauga mayor Hazel McCallion, federal ministers the Hon. Bud Gregory and the Hon. Jim Fleming, and Erindale principal Paul Fox as MC. Citizen of the Year was Margaret Leslie, a Red Cross volunteer for 30 years and chairman of the Mississauga Red Cross Emergency Services for the past 12, and at that post when the train derailment disaster occurred.

### The Department of Athletics and Recreation and Hart House

Offer membership to alumni and their spouses which provides  
— Full use of the new athletic complex with Olympic pool, gymnasiums, track and a complete program of recreation and fitness,  
— Full use of Hart House, common rooms, licensed dining rooms, gymnasiums, pool and a wide range of activities.

The membership fee is \$160 per annum. For further information:

The Hart House Graduate Office,  
7 Hart House Circle,  
University of Toronto,  
Toronto, Ontario.  
M5S 1A1

Or phone: 978-2446/7

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THUNDER BAY  
WINNIPEG  
SASKATOON

CALGARY  
EDMONTON  
VANCOUVER  
VICTORIA

## Permanent University Record of Alumni War Service



Records of alumni war service are being compiled for permanent keeping in the Memorial Room of the Soldiers' Tower.

If you served in the armed forces during a state of war or emergency please send the following information to the Soldiers' Tower Committee, Alumni House, 47 Willcocks Street, Toronto M5S 1A1.

(Note: Relatives or close friends of alumni killed in action or deceased are asked to forward as much information as they can.)

**Surname**

**Given names**

**Military decorations**

**University degrees and year**

**College/faculty/school**

**Military rank**

**Arm, corps or regt.**

**War service (state years)**

**Theatre of Action**

**Medals**

**If wounded or killed in action:  
date/place**



# SACRED COWS, MOZART & HOCKEY

## LECTURES

### Larkin-Stuart Lectures 1980.

The Very Rev. Henry Chadwick, Magdalene College, Cambridge: St. Augustine, Faith and Reason. Tuesday, Sept. 30.

Confessions.

Wednesday, Oct. 1.

Authority in Christian Theology.

Thursday, Oct. 2.

Faith and the Philosophers.

George Ignatieff Theatre, Trinity College. 8 p.m.

Information and free tickets: Office of Convocation, Trinity College; 978-2651.

### Preparation for Retirement Living.

Tuesdays, Oct. 14 to Nov. 25.

Seven-week program for alumni who have recently retired or are about to retire.

Oct. 14.

The Challenge of Aging and Retirement. Prof. Greta Riddell-Dixon, Ryerson Institute of Technology.

Oct. 21.

Money Matters in Retirement.

W.G. Upshall, investment counsellor. Oct. 28.

Health Planning in Retirement. Dr. Susan Kober, general practitioner.

Nov. 4.

Seniors and the Law. Norman Epstein, barrister and solicitor.

Nov. 11.

Housing in Retirement. John Moses, real estate specialist.

Nov. 18.

Community Resources for Seniors in Metropolitan Toronto. Speaker from Metro Toronto Community Information.

Nov. 25.

Leisure Activities in Retirement. Morley Kurbrigg.

All lectures will be given at 162 St. George St. and are open to alumni and friends. Registration fee \$20, married couples \$35; cheques payable "U.T.A.A. — Senior Alumni".

Information and registration: Department of Alumni Affairs, 47 Willcocks St.; 978-8991.

### The Next Stage.

Monday, Oct. 20.

Robin Phillips, Stratford Festival.

Lecture in series "The Frontiers of University Research" presented by

Details given were those available at press time. Readers are advised to check with the information telephone numbers provided in case of changes. Enquiries by mail should be addressed to the department concerned, University of Toronto, Toronto, M5S 1A1, unless otherwise indicated.

SGS Alumni Association and Manu-Life with Graduate Centre for Study of Drama. Tentative location, auditorium, Medical Sciences Building. 8 p.m.

Information, 978-6794.

### Prospects for Energy Co-Operation in Europe.

Wednesday, Oct. 22.

Dr. Janez Stanovnik, Economic Commission for Europe, Geneva, will give third Keyes Memorial Lecture. George Ignatieff Theatre, Trinity College. 8 p.m.

Information and free tickets: Office of Convocation, Trinity College; 978-2651.



### 1980 Snider Lectures.

Prof. Marvin Harris, Columbia University, visiting University of Florida, will give two evening public lectures at Erindale.

Tuesday, Oct. 28.

Sacred Cows Revisited.

Wednesday, Oct. 29.

Causes of Primitive War.

Afternoon lecture at St. George.

Thursday, Oct. 30.

Paradigmatic Options in Contemporary Anthropology.

Details to be confirmed.

Information, 828-5214.

### Victoria College Armstrong Lecture.

Early November.

Prof. Harold Bloom, Yale University: Three Paradigms for Criticism: Gnosis, Family Romance, Transference and Taboo. Details to be confirmed.

Information, 978-3914 or 978-3803.

### Science and Morality as Paradoxical Aspects of Reason.

Monday and Tuesday, Nov. 3 and 4.

Prof. Gunter Stent, Snider Visiting Professor to Scarborough College; University of California, Berkeley. Details to be confirmed.

Information, 284-3243.

### Your Right to Know.

Presented by Associates of Erindale.

Thursday, Nov. 6.

About Education. Stephen Lewis.

Thursday, Nov. 13.

About the Powers of the Police.

Ed Greenspan.

Thursday, Nov. 20.

About Family Law. Her Honour Judge Rosalie Abella.

All lectures will be in the South Building, Erindale. 8 p.m. Tickets: \$7.50 series, \$3 single.

Information and tickets: Campus Events, Erindale College, Mississauga, L5L 1C6; 828-5214.

## CONTINUING STUDIES

### English Language Study Sessions — Focus on Writing.

Saturday, Oct. 18.

Notemaking and information processing as a part of learning.

Saturday, Oct. 25.

Britton and Writing: Theory into practice.

Saturday, Nov. 8.

Implementing language across the curriculum in the classroom.

Saturday, Nov. 15.

A practical approach to developing language policies in the schools.

### Hitchcock's Genius in Film: A Retrospective.

Wednesdays, Oct. 15 to Dec. 17.

Clive Denton will screen and lead



discussion on following films and others to be announced: "The Man Who Knew Too Much" (1934), "The Thirty-Nine Steps" (1935), "The Lady Vanishes" (1938), "Rebecca" (1940), "The Birds" (1963) and "Marnie" (1964).

*Information on these and other courses: School of Continuing Studies, 158 St. George St., Toronto, M5S 2V8; (416) 978-2400.*

## CONFERENCES

### Poles in North America.

*Oct. 23 to 25.*

International conference on the history of Polish immigration to North America sponsored by Multicultural History Society of Ontario and the U of T Ethnic and Immigration Studies Program. Papers will be given on emigration, work and enterprise, urban experience, secular institutions, Polishness, role of the church in North America and ethnic generations.

St. Michael's College. Thursday, Oct. 23, evening; Friday and Saturday all day. Registration fee \$30, senior citizens free. Advance registration appreciated.

*Information and registration: Multicultural History Society of Ontario, 43 Queen's Park Cresc. E., Toronto, M5S 2C3; (416) 979-2973.*

### Dentistry Alumni Day.

*October 27.*

Occlusion and TMJ Dysfunction. Dr. William K. Solberg, University of California, Los Angeles. All-day session will be held on St. George campus. Advance registration required.

*Information: Dr. M. Jackson's Office, Faculty of Dentistry; 978-2358 or 978-4413.*

### Women's Studies Week.

*Oct. 27 to Nov. 1.*

Varied program, focusing on the 20th century, of lectures, exhibition, play and reading by and about women will be held at Scarborough College.

*Information and brochure: Division of Humanities, Scarborough College, West Hill, M1C 1A4; 284-3309.*

## CONCERTS

### EDWARD JOHNSON BUILDING Mini Lecture Series.

*Thursday, Oct. 2.*

Luciano Berio will lecture on his music.

*Saturday, Oct. 25.*

A Belgian Weekend. Henri Pousseur and l'Ensemble Musique Nouvelle will perform music by Belgian composers.

*Thursday, Nov. 20.*

Hugh Davies will demonstrate his original electronic instruments and discuss his music.

Co-sponsored by New Music Concerts and Faculty of Music. All lectures in Walter Hall. 8 p.m. Admission \$1, free to New Music subscribers.

### Faculty Artists Series.

*Saturday, Oct. 4.*

David Zafer, violin; Patricia Parr and Greta Kraus, piano; Patricia Kern, mezzo-soprano; works by Brahms and Schubert; first of four programs.

*Saturday, Nov. 1.*

Eugene Rittich, horn; Lorand Fenyes, violin; Vladimir Orlof, cello; Patricia Parr, piano; works by Robert Simpson, Bartok and Schubert; second of four programs.

Walter Hall. 8 p.m. Tickets \$5, students and senior citizens, \$2.

### U of T Symphony Orchestra.

*Saturday, Oct. 18.*

Conductor Victor Feldbrill; Paul



ALEX GRAY

## Where are they now?

The University tries to keep in touch with its alumni for a variety of reasons, for example, to ensure that they receive *The Graduate*. However, we have lost contact with many of them because we do not have their current addresses. If you know the whereabouts of any one on the following list, please send the information to Alumni Records, 47 Willcocks St., University of Toronto, Toronto, M5S 1A1, or telephone 978-2139. Your assistance will be appreciated.

### University College

Edward Lindgren BA (50).

### St. Michael's College

William R. Courtade BA (71)

### Victoria College

Richard B. Carroll BA (69);

Patricia H.W. Mullins (formerly Reid) BA (63).

### School of Graduate Studies

Edward F. Fitzgerald MA (76);

Alfred Chi-Lai Lam MSW (77);

William Lazarus MA (71);

Johan Nijland MBA (72);

Mary Rogina MA (77);

Paul T.P. Wong PhD (70).

### Architecture

Cornelius Rotteveel - diploma

Town & Regional Planning (59);

Daniel D. Weil BArch (78).

### Engineering

Meir Izak BAsC (74);

Barney Kellam BAsC (26);

Alan Wiley Morgan BAsC (43);

Dale E. Wettlaufer MAsC (72).

### Dentistry

Robert G. Hiscox DDS (61).

### Medicine

Leo Charendoff MD (56);

Roger Demeyers BSc (Medicine) (58).

### Physical & Health Education

Aili Kadai (formerly Talviste) BPHE (69).





## Creation and Recreation

NORTHROP FRYE

The influential Canadian author and critic here analyses the way in which the structure and imagery of literature have been affected by the complex of ideas and images surrounding the word 'creation' and the relationship in creativity between the human and the divine. This is an intriguing precursor to the eagerly awaited major study on which Professor Frye is working.

\$3.95 paper

University of Toronto Press



# THANK YOU!

to the many readers who responded to our invitation to become voluntary subscribers to *The Graduate*. To those who intended and forgot, the invitation is still open. Send \$10 to The Graduate, Department of Information Services, University of Toronto, Toronto M5S 1A1 and mark it voluntary subscription.

Thompson will be soloist for Symphony No. 2 in B minor by Borodin. MacMillan Theatre. 8 p.m. Tickets \$3, students and senior citizens \$1.50.

### U of T Wind Symphony.

Sunday, Oct. 19.

Conductor Ronald Chandler; Roman Yasinsky will be soloist for Fantasia for Euphonium and Band by Gordon Jacob.

MacMillan Theatre. 3 p.m.

### Thursday Afternoon Series.

Oct. 23.

Recital: Nancy Herbison, soprano, winner, 1980 S.C. Eckhardt-Gramattée competition.



Oct. 30.

Lecture: Stravinsky's "Danse sacrale" 1912-1967. Prof. Robert Falck, Faculty of Music.

Nov. 13.

Dialogue: Electronic music — thirty years later. Dean Gustav Ciamaga and R. Murray Schafer reflecting upon their early experiences with electronic music.

Nov. 20.

Recital: Faculty of Music Jazz Ensemble directed by Phil Nimmons and David Elliott.

Walter Hall. 2.10 p.m.

### Hindemith Festival Series.

Thursdays Oct. 23 and 30, Nov. 6.

Special concerts in co-operation with CBC Radio will present three concerts devoted to the music of Hindemith.

All concerts in Walter Hall. 8 p.m.

Tickets: series \$10, students and senior citizens \$5; single \$5, students and senior citizens \$2.

### John Kruspe, Piano.

Friday, Oct. 24.

All-Beethoven program. Walter Hall. 8 p.m.

### U of T Concert Choir.

Conductor John Tuttle. Walter Hall. 3 p.m.

### Domb-Parr Duo.

Monday, Nov. 10.

Patricia Parr, piano, and Daniel

Domb, cello, will perform works by Beethoven, Brahms and Stravinsky. Walter Hall. 8 p.m.

### Electronic Music Series.

Sunday, Nov. 23.

First of three concerts will feature works for tape alone, film, and performers and tape. Walter Hall. 3 p.m.

### U of T Concert Band.

Sunday, Nov. 30.

Conductor Melvin Berman; program includes works by Liadov, Giannini, Shostakovich and Copland. MacMillan Theatre. 3 p.m.

Information on all concerts in Edward Johnson Building available from box office, 978-3744.

### ROYAL CONSERVATORY OF MUSIC.

#### Twilight Concert Series.

Thursday, Oct. 9.

Alison MacKay, early music.

Thursday, Oct. 30.

David Hetherington, cello.

Thursday, Nov. 20.

Susan Prior, baroque flute.

Concert Hall. 5.15 p.m.

#### Noon-hour Concert Series.

Wednesday, Oct. 15

Lawrence Brown, piano.

Wednesday, Nov. 12.

Colleen Farrier, piano.

Concert Hall. 12.15 to 1 p.m.

Information on all concerts at Conservatory available from publicity office, 978-3771.

### HART HOUSE Chopin Festival.

Sundays, Oct. 5 to Nov. 30.

Complete music for solo piano, nine pianists will each give one concert; presented by CBC Festival Toronto in co-operation with Hart House Music Committee.

Great Hall. 8 p.m.

Tickets: Hart House members free; limited number for sale from CBC Festivals, Box 6720, Station A, Toronto, M5W 1X6; (416) 925-3311, ext. 4835. Complete series \$20, mini-series A (first five concerts) \$12, mini-series B (last four) \$10, single \$3.

Deadline for series orders Sept. 22. Any unsold tickets will be available after this date and at the door.

Information: Program Office, Hart House; 978-2446.

### University Singers.

Wednesday, Nov. 19.

Conductor William Wright; program of songs of the 19th and 20th centuries including works by Dvořák, Fauré and Schumann.

Great Hall. 8.30 p.m.

Information: Faculty of Music, 978-3744.





## PLAYS & OPERA

### Hart House Theatre.

Graduate Centre for the Study of Drama 1981 season.

Oct. 15 to 18 and 22 to 25.

"Georges Dandin" and "Scapin" by Molière.

Nov. 19 to 22 and 26 to 29.

"Paradise Lost" by Milton, abridged for the theatre by Gordon Honeycombe, staged reading.

Jan. 21 to 24 and 28 to 31.

"The Changeling" by Middleton and Rowley.

March 4 to 7 and 11 to 14.

"Love for Love" by Congreve.

Performances at 8 p.m. Tickets: season subscription \$16, students and senior citizens \$8; single \$5, students and senior citizens \$2.50.

Information, 978-8668.

### Glen Morris Studio Theatre.

Oct. 29 to Nov. 1 and Nov. 5 to 8.

"Female Transport" by Steve Gooch. First of four plays Drama Centre 1981 studio season.

Performances at 8 p.m. Tickets \$1.

Information, 978-8668.

### Scarborough College.

Oct. 31 and Nov. 1.

"The Club" by Eve Merriam, musical diversion. Part of Women's Studies Week. Meeting Place. 8 p.m.

Information, 284-3243.

### MacMillan Theatre.

Nov. 14, 15, 21 and 22.

"The Marriage of Figaro" by Mozart. First production by Opera Division, Faculty of Music for 1981 season.

Performances at 8 p.m. Tickets \$5, students and senior citizens \$2.50.

Information, 978-3744.

## EXHIBITIONS

### Hart House.

Sept. 23 to Oct. 10.

George Raab, prints and etchings.

Oct. 14 to 30.

Shelagh Keeling, paintings on paper.

Nov. 4 to Dec. 12.

Painters Eleven.

Gallery hours: Monday, 11 a.m. to 9 p.m.; Tuesday-Saturday, 11 a.m. to 5 p.m.; Sunday, 2 to 5 p.m.

### Erindale College.

Oct. 3 to 22.

Works by art instructors at Sheridan College. (Tentative dates.)

Oct. 24 to 30.

Art Loan Society of Port Credit.

Nov. 7 to 28

Art of the Anishnabec. First juried show of works by Manitoulin Island artists. Following Erindale exhibition, province will sponsor tour to other Ontario centres. Opening reception, Nov. 7 at 8 p.m. R.S.V.P. 828-5214. Gallery hours: Monday-Friday, 10 a.m. to 9 p.m.; Saturday-Sunday, 2 to 5 p.m.

### Scarborough College.

October.

Judith Schwarz, sculptor. Part of Women's Studies Week.

Nov. 3 to 21.

Diane Morrow, 7T9, printmaker.

Nov. 24 to Dec. 12.

College photography show and sale.

Gallery hours: Monday-Thursday, 9 a.m. to 7 p.m.; Friday, 9 a.m. to 5 p.m.; Sunday, 2 to 5 p.m.



## SPORTS

### Football.

Friday, Oct. 3.

Blues vs Windsor. 7 p.m.

Thursday, Oct. 9.

Blues vs Waterloo. 7 p.m.

Friday, Oct. 24.

Blues vs York. 7 p.m.

All games in Varsity Stadium.

Information and ticket prices, 978-4112.

### Soccer.

Wednesday, Oct. 1.

Blues vs McMaster. 8 p.m.

Wednesday, Oct. 15.

Blues vs Brock. 8 p.m.

Saturday, Oct. 18.

Blues vs Laurentian. 3 p.m.

Sunday, Oct. 26

Blues vs RMC. 1 p.m.

All games in Varsity Stadium.

Information and ticket prices, 978-4112.

## Hockey.

Saturday and Sunday, Oct. 25 and 26.

Toronto tournament. Blues, Western, York and Concordia. Saturday games at 6 and 9 p.m.; Sunday games at 4 and 7 p.m.

Wednesday, Nov. 5.

Blues vs McMaster. 7 p.m.

Wednesday, Nov. 12.

Blues vs Laurier. 7 p.m.

Friday, Nov. 21.

Blues vs York. 7 p.m.

Friday, Nov. 28.

Blues vs. Queen's. 7 p.m.

All games in Varsity Arena.

Information and ticket prices, 978-4112.

## Basketball.

Friday, Nov. 7.

Blues vs. Waterloo. 8.15 p.m.

Tuesday, Nov. 11.

Lady Blues vs Brock. 7.30 p.m.

Friday, Nov. 14.

Lady Blues vs Western. 7.30 p.m.

Wednesday, Nov. 19.

Blues vs Laurier. 8.15 p.m.

All games in Sports Gym. Admission \$2, students \$1.

Information, 978-4112.

## MISCELLANY

### Vic Alumni Program.

October/November.

Alumni of Victoria College are planning a trip to Cobourg the first week-end in October which will include a tour of the original Old Vic building and lunch at Marie Dressler's. Plans are also under way for a theatre night to be held in mid-November.

Information, 978-3813.

### SMC Homecoming 1980.

Friday, Oct. 3 to Sunday, Oct. 5.

Featured years: 1960, 1965, 1970, 1975.

Oct. 3: cocktail party, cash bar,

Brennan Lounge, 8 p.m.

Oct. 4: Boozer Brown Game, 12 noon; reception and dinner for featured years, tickets complimentary but reservations required, to be followed by piano bar in Brennan Lounge for all alumni.

Oct. 5: Student Alumni Mass, Brennan Assembly Hall, 11 a.m.

Information: Alumni Office, St.

Michael's College; 921-3151.

### Creative Expression.

Thursday, Oct. 9.

Dave Stephens, monologist on tour



from England, will give workshop at Scarborough College. Details, including date, to be confirmed.  
Information, 284-3243.

#### Alumni Fall Car Rally.

Saturday, Oct. 18.

Erindale event will start from 161 North Building, Erindale College at 1 p.m. Advance registration \$3 per car, at door \$5 per car.

Information and registration, 828-5217.

#### Ballet Demonstration.

Saturday, Oct. 18.

Students of the National Ballet School. Program will display some of the methods used in the training of a dancer and will end with two or three costumed dances. There will be a question period.

George Ignatieff Theatre, Trinity College. 2 p.m. Tickets \$2.50, children \$2.

Information and tickets: Office of Convocation, Trinity College; 978-2651.

#### Book Sale.

Thursday and Friday, Oct. 23 and 24.

Friends of the Library, Trinity College, fifth annual book sale. All kinds of books needed; call Office of Convocation at 978-2651 or Helen Bradfield at 489-1959 for pick-up. Seeley Hall. Oct. 23 from 7 to 10 p.m., Oct. 24 from 11 a.m. to 6 p.m. Opening night admission charge 50 cents, refreshments will be served. Information, 978-2651.

#### Book Sale.

Thursday and Friday, Nov. 6 and 7.

University College second annual book sale. Book donations welcomed, to arrange collection phone 978-8746. West Hall. Nov. 6 from 6 to 10 p.m., Nov. 7 from 10 a.m. to 4 p.m. Information, 978-8746.

#### P & HE Alumni Association.

Saturday, Nov. 8.

Reunion day. Tour of new Warren Stevens Wing of Athletic Complex and demonstrations by students, 1.30 p.m. Dinner at Hart House, 6 p.m., speaker will be Tom Watt, "Ice Hockey and the Olympics". Registration limited to 100, fee \$10.

Information and registration:

Dr. Robert Goode, School of Physical & Health Education; 978-4795.

#### St. Hilda's Night.

Monday, Nov. 17.

Building Fund card party, proceeds to fund for new wing. Cartwright Hall and Adams Room. 7.30 to 11 p.m. Admission \$5, includes refreshments.

Information and tickets: Office of Convocation, Trinity College; 978-2651.

## Cryptic Crossword/Chris Johnson

# THE GRADUATE TEST NO.7

Two winners this time. The Graduate Test No. 5, March/April, was won by A. Ross Little of Winnipeg from 277 entries; his prize, *Crown Jewels of Iran*. The winner of Test No. 6, May/June, from 388 entries was M.R. Dunn of Nepean to whom we have sent *Homesteads* and *Rural Roots*.

For Test No. 7, the U of T Press has generously provided a classic, *The Indians of Canada* by Diamond Jenness, with 130 illustrations; the most comprehensive work available. To give distant readers a chance, we return to our schedule of one issue's delay. Entries must be postmarked on or before Oct. 31. The solution will be in Nov./Dec., the winner's name in Jan./Feb.

Address entries to: The Graduate Test, Department of Information Services, University of Toronto, Toronto M5S 1A1. And please don't forget to include your name and address.

### ACROSS

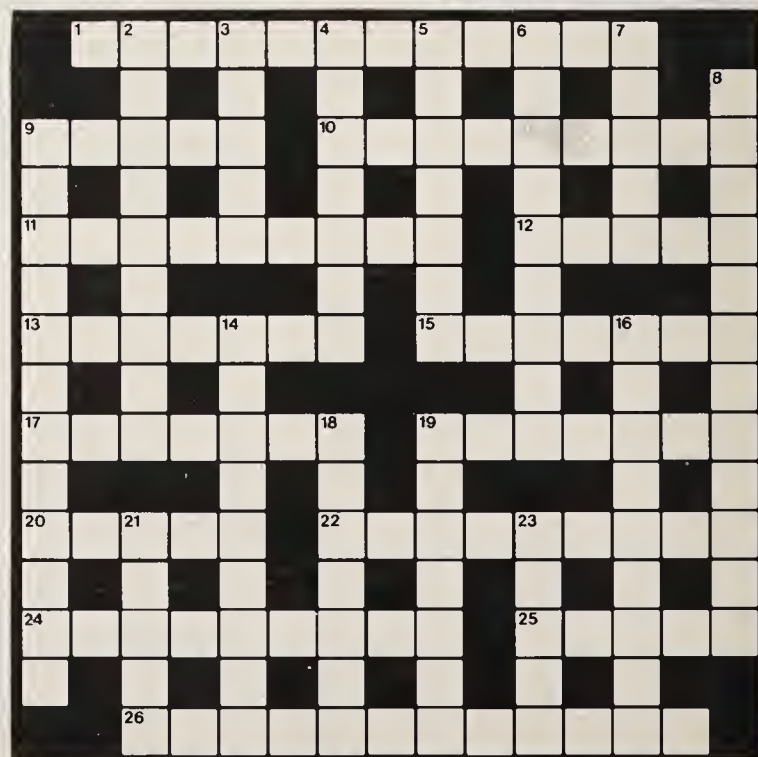
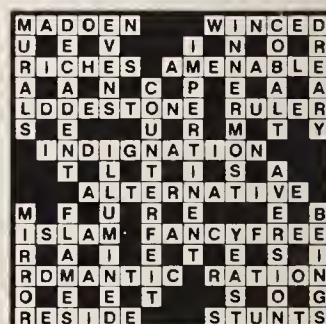
- 1, 21 D. Plastic never lying around plastic coffin? (5,7,5)
9. Spanish, very cold, and probably very hot (5)
10. Rash American who prosecutes communist wrongdoing (9)
11. University of New Mexico, U.S., one state not pleasing to the ears (9)
12. He finds fault in a racy nickname (5)
13. Find charm in the sixteenth rally (7)
15. Possibly a receipt for each piece of footwear (7)
17. Case: cud chewing charged (7)
19. Comprehensive protein molecule — wealth he's not found with (7)
20. Come to the point — gently strike the queen (5)
22. Part of speech a catalogue for one concerned with words (9)

24. Of enthusiastic applause for leaderless country getting into shape (9)
25. Directed media production (5)
26. Showing initiative to go in using a crowbar? (12)

### DOWN

2. Peculiar to the language of a degree in a very silly frame (9)
3. Your half appears twice with southern playthings (5)
4. Extreme eccentricity of car dial (7)
5. See us vacillate about rubles, pesos and lira in excess (7)
6. Installation in fowl to avoid their noise (9)
7. Yield a point — granted (5)
8. Shocked, chose to hold court anyhow (12)
9. Stunned state puts up with eastern bloc (12)
14. Instruct in base confinement (9)
16. I am, monsieur, in the clutches of a human being — a fruit (9)
18. More godlike oracle (7)
19. Dress the French right for a scrambler (7)
21. See 1A
23. A degree secret police collect (5)

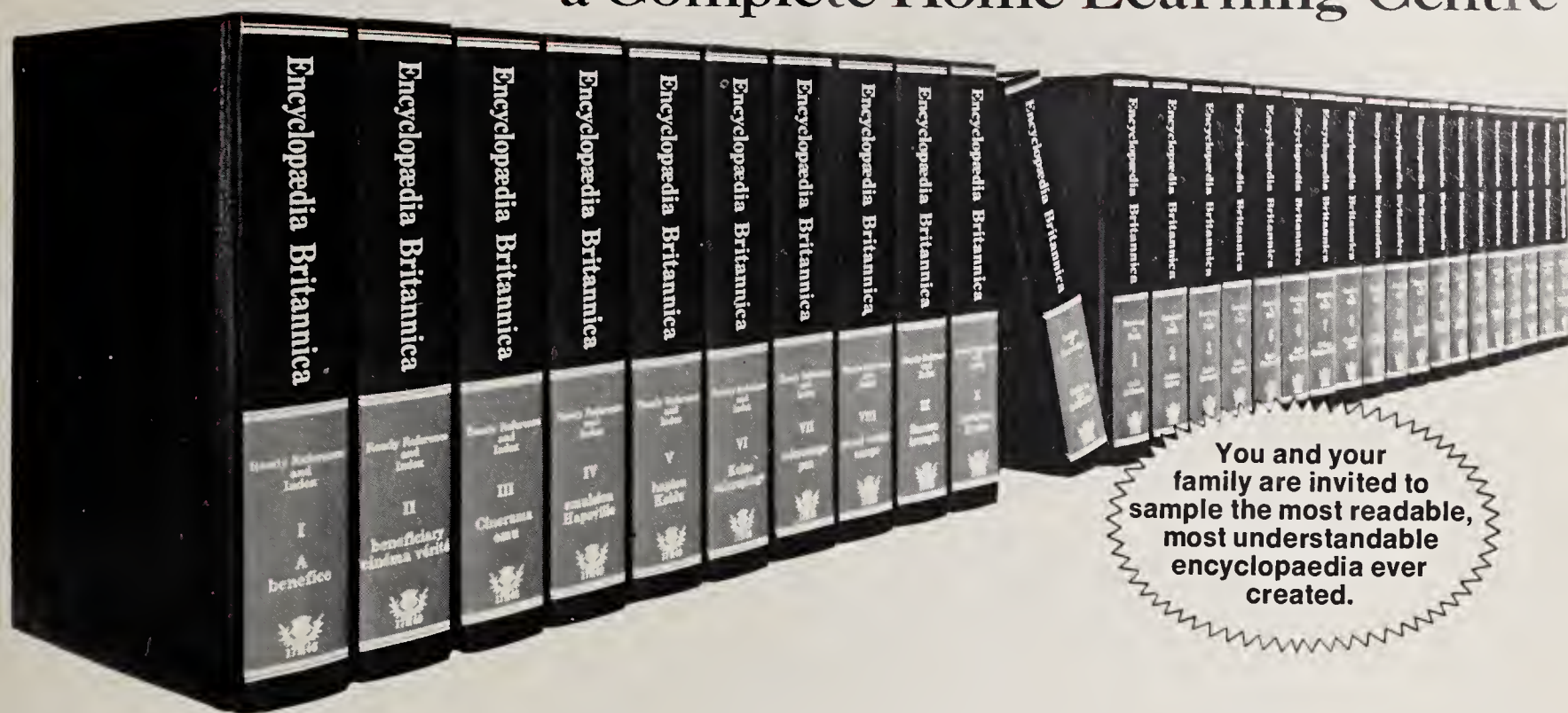
Solution to The Graduate Test No. 6





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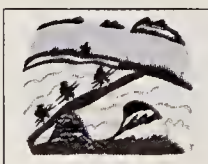
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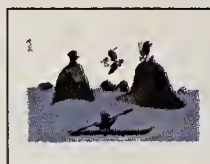
B Pudlo



C Kananginak



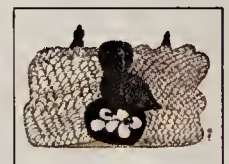
D Pitseolak



E Pitseolak



G Jamasie



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